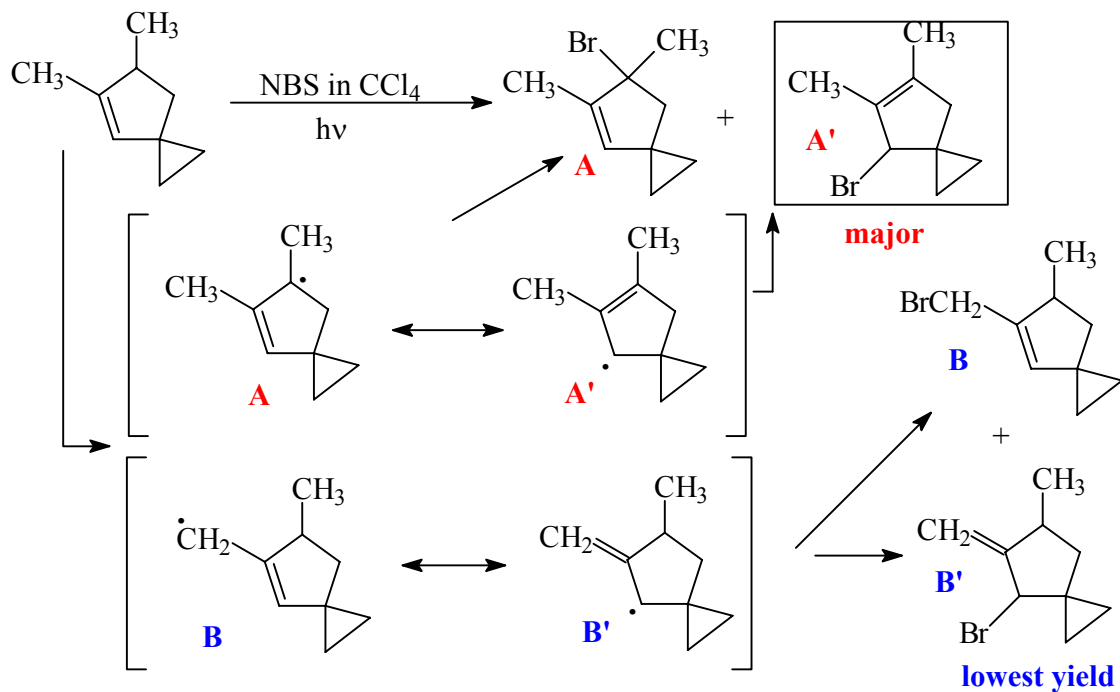
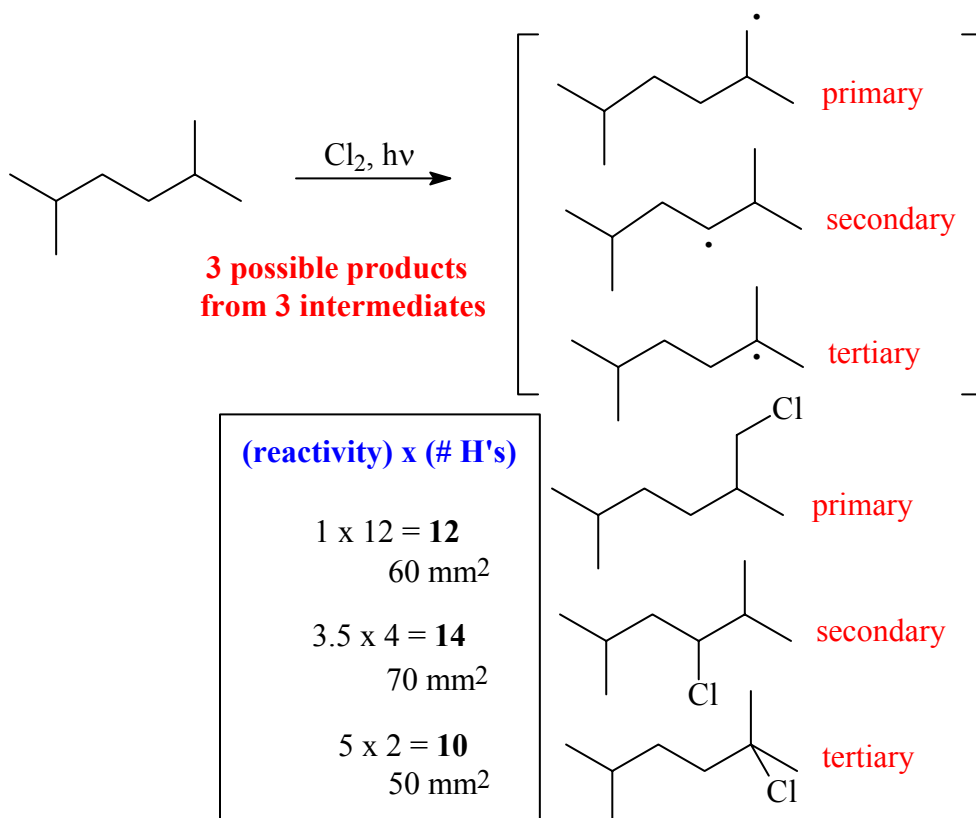


**CHM 201**  
**Chapter 10 Exam Problems**

1. The allylic bromination of the alkene below with NBS gives **four** different products. **Draw the two initially formed *free radical* intermediates together with any applicable resonance structures and the four products.** Which product do you expect to be the major one and which is formed in lowest yield? Identify them both.



2. The relative reactivity of **primary : secondary : tertiary** sites in free radical chlorination is **1 : 3.5 : 5**. The free radical chlorination of 2,5-dimethylhexane gives three monochlorinated products (all C<sub>8</sub>H<sub>17</sub>Cl). Gas Chromatographic analysis of the product mixture shows three peaks with areas of 60 mm<sup>2</sup>, 70 mm<sup>2</sup> and 50 mm<sup>2</sup> (compounds **A**, **B**, and **C** respectively). **Draw the three products** and predict which isomer corresponds with each peak in the GC. Show your work.



3. Propose a series of chemical steps that would facilitate the following syntheses:

