1. A hydrocarbon of formula $\text{C}_4\text{H}_{10}$ was treated with NBS and the product isolated. The $^1\text{H}$ NMR and mass spectra of the product is given below. Draw the structure of the product and the starting material.

Note: this mass spectrum is not showing any molecular ion peaks! The peaks at high m/z result from a loss of 15 from the molecular ions.
2. Compound A (C₄H₈) undergoes a reaction to give B:

\[
\begin{array}{c}
\text{A} \\
\text{C₄H₈}
\end{array} \rightarrow \begin{array}{c}
\text{B}
\end{array}
\]

The following IR, \(^1\)H NMR, and mass spectra are for B. Determine the structure of A and B, as well an appropriate reagent for the transformation.
Note, this mass spectrum is not showing anything for the molecular ion!