

# CHEM HELP *ASAP*

## Organic Chemistry Problem Set

### Distinguishing Isomers based on $^1\text{H}$ NMR Spectra

Instructions: Each question below shows a  $^1\text{H}$  NMR spectrum with four structural isomers. For each question, determine which compound matches the  $^1\text{H}$  NMR spectrum shown. Briefly explain the reasons for your selection. Use the ideas of the number of signals, chemical shift, multiplicity, and integration in your reasoning. Spectra for these questions were generated by <https://www.nmrdb.org/>.

Suggested playlist

[https://www.youtube.com/watch?v=g9aFR3slyQM&list=PLIzSRqjN72jfdP6\\_XzJ6IRS2yXsGNk\\_hZ](https://www.youtube.com/watch?v=g9aFR3slyQM&list=PLIzSRqjN72jfdP6_XzJ6IRS2yXsGNk_hZ) (NMR spectroscopy)

YouTube video of answered questions:

<https://youtu.be/HnjLsFKrrvc>

Questions:







