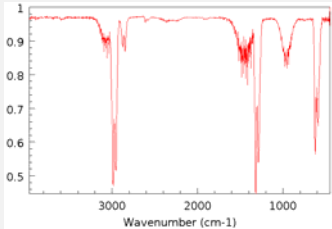


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[TP] In the IR spectrum shown of CH_3Br , the absorption near 3000 cm^{-1} is due to ...

0% 1. C–Br stretch
 0% 2. C–H stretch
 0% 3. H–C–Br symmetric stretch
 0% 4. H–C–Br antisymmetric stretch



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Lecture 9 CH101 A1 (MWF 9:05 am)
 Monday, September 24, 2018

For today ...

- Infrared (IR) spectra
- Atmospheric warming

Next lecture: Complete Ch4: (secs 1, 3, and 4 only): Atmospheric warming
 Think about It e4.4: Collisional heating <https://goo.gl/zgTkGr>
 Think about It e4.5: IR windows <https://goo.gl/4yfQQG>

Representative questions: Warming: 4.4, 4.5, 4.23, 4.33

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Infrared (IR) spectra

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Resonance in light-matter interaction

Demonstration: Tale of three frequencies

Frequencies **match** → ...
 response (**energy transfer**)

Frequencies **do not match** → ...
 No response, “transparency” (**no energy transfer**)

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What is being displayed in an IR spectrum?

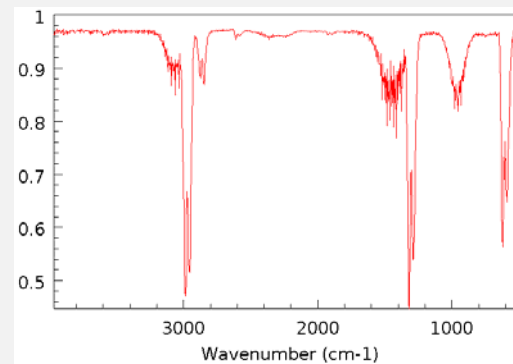
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What is being displayed in an IR spectrum?

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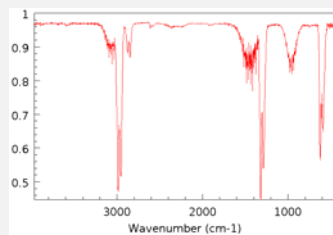
10

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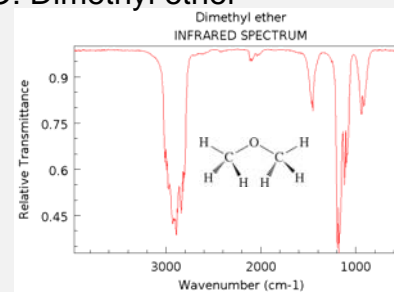
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$\text{C}_2\text{H}_6\text{O}$: Dimethyl ether

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