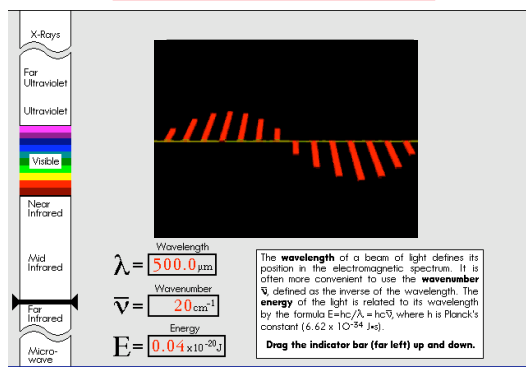


Infrared Spectroscopy

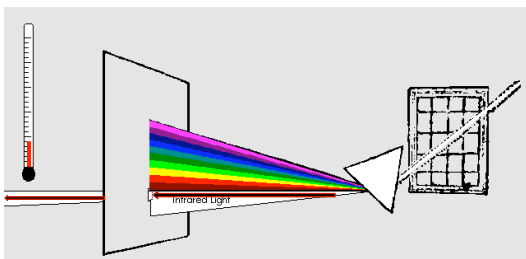
1. Gives information about molecular vibrations, requires a molecular dipole moment or induced dipole.
2. Correlates with the energy absorption of Greenhouse Gases
3. Very useful for identifying functional groups in organic molecules.

Electromagnetic Radiation: Light, Energy, Heat

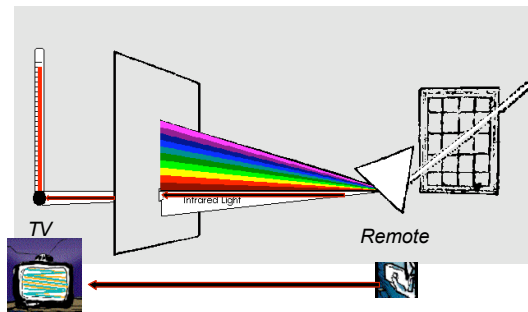
IR Tutor: <http://chemistry.beloit.edu/Warming/pages/infrared.html>



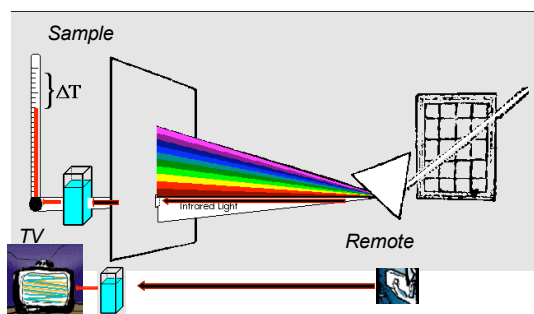
Infrared Absorbance



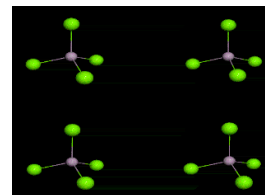
Infrared Absorbance



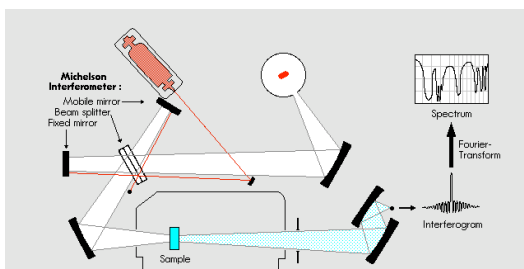
Infrared Absorbance



Infrared Absorbance & Molecular Vibrations for CCl_4 Stretching & Bending



Infrared Absorbance



Infrared Spectroscopy

region of infrared that is most useful lies between $2.5\text{-}16\ \mu\text{m}$ ($4000\text{-}625\ \text{cm}^{-1}$)

depends on transitions between vibrational energy states

stretching

bending

[IR Tutor](#)

