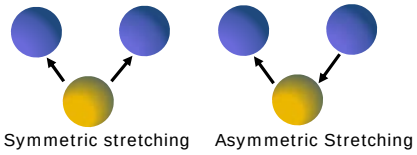
SPECTRUM TWO™

The compact IR spectrometer that combines ease of use, power and robustness

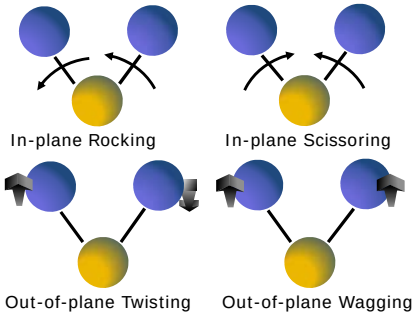
PerkinElmer® For the Better

If infrared radiation of a given frequency strikes a sample composed of molecules having vibrational frequency the same as that of the incident radiation, then the molecules will absorb the radiation and the energy of the molecule is increased. However if the incident radiation differs from the characteristic frequencies of the molecule, then the radiation passes through the sample. The vibrational frequencies are primarily determined by the mass of the atoms in the molecule and the strengths of the bonds between them, such that heavier atoms vibrate at a lower frequency and stiffer bonds vibrate at a higher frequency. The proximity and spatial geometry of the various groups often influence the vibrational frequencies.

Stretching – change in inter-atomic distance along bond axis



Bending or deformation – change in angle between two bonds

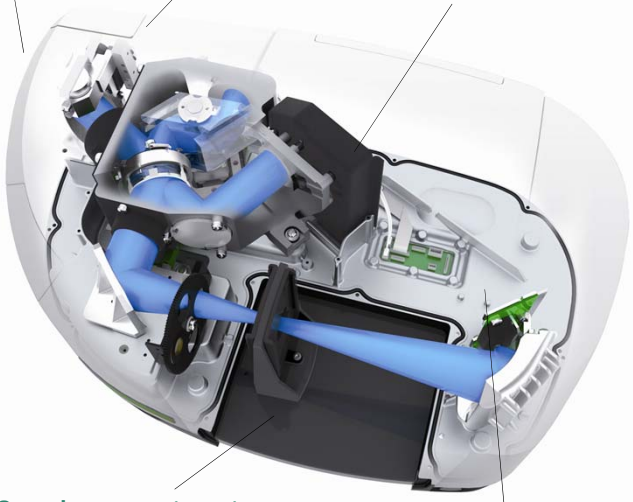


patented PerkinElmer technology

IR Source
- stabilized and long lifetime

Interferometer
Dynascan™ – robust proven design

OpticsGuard™
- to ensure long life optics in the presence of humidity and temperature changes



Sample compartment
- large and compatible with the widest range of accessories, transmission, ATR, diffuse and specular reflections ...

Detector
- stabilized and high sensitivity

ABSORPTION IN DIFFERENT REGIONS OF THE INFRARED SPECTRUM