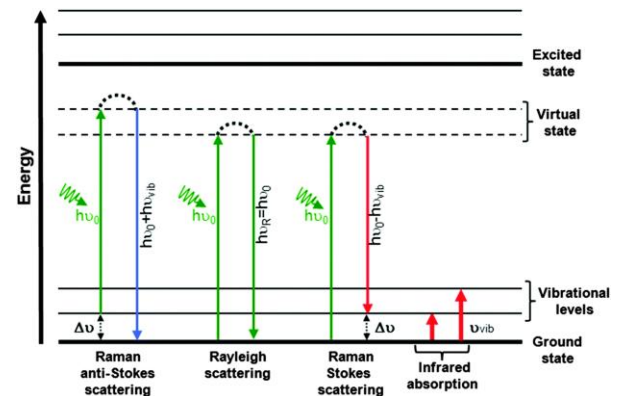


MATERIALS RESEARCH WITH FTIR AND RAMAN MICROSCOPY

- Vibrational spectroscopy coupled to microscopy
- FTIR: absorbance of infrared light
- Raman: inelastic scattering of light
- Chemical and spatial information – compound types and locations



WORKFLOW

SAMPLE PREPARATION FOR FTIR

- Transmission measurements from thin sections
 - Embedding in plastic, cutting to thin sections
 - Sections to IR transparent windows
- Reflection and ATR measurements from the sample surface - little or no preparation

Raman does not usually require sample preparation!

Sample types:

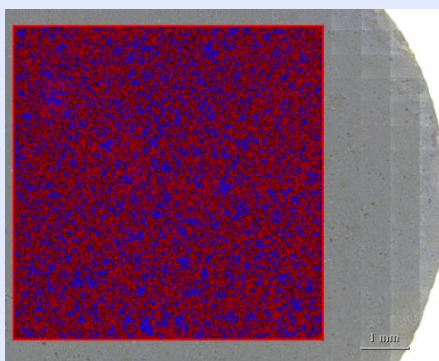
- FTIR: Polar organic compounds
- Raman: nonpolar organic and inorganic compounds
- Pharmacy, materials science, chemistry, biology, etc.

Research questions:

- Development and characterization of new materials
- Contaminant analysis and quality control

EXAMPLES

MEASUREMENT AND DATA ANALYSIS



- Spectral manipulations, e.g. baseline correction
- Spectral maps – visualisation of distributions and locations of components
- Statistics – multivariate analysis

SIB LABS INFRASTRUCTURES



IMAGING FTIR
Agilent Cary
670/620, 128x128
FPA detector

**CONFOCAL
IMAGING RAMAN
MICROSCOPE**
Thermo DXR2xi



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