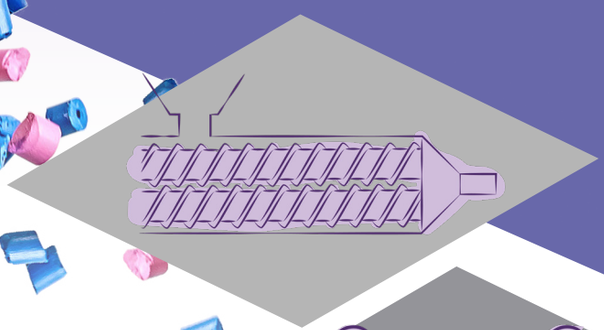
thermoscientific

6 techniques to get the most from polymer engineering & production

1 Compounding & Scale-up

Small-scale lab extruders

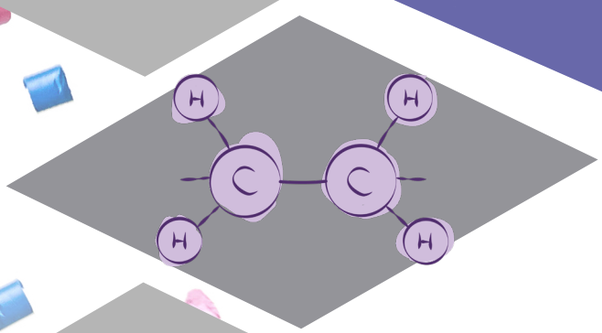
- Conduct pilot projects faster
- Use less material than production units
- Smaller footprint saves lab space



2 Chemical Analysis

FTIR, NIR, Raman, XRF spectrometers

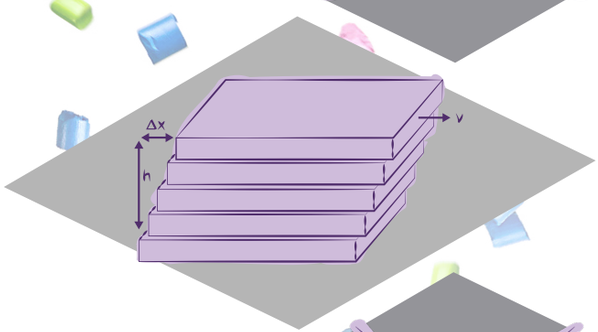
- Molecular spectroscopy of compounds
- Verify incoming feedstock
- Identify unknowns and contaminants



3 Flow Properties

Rotational and torque rheometers

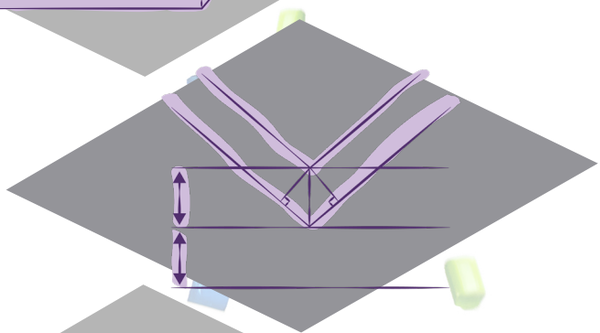
- Analyze mixtures and additive effects
- Determine melt transitions
- Modular designs provide easy handling



4 Crystallography

X-ray diffractometers, Raman spectrometers

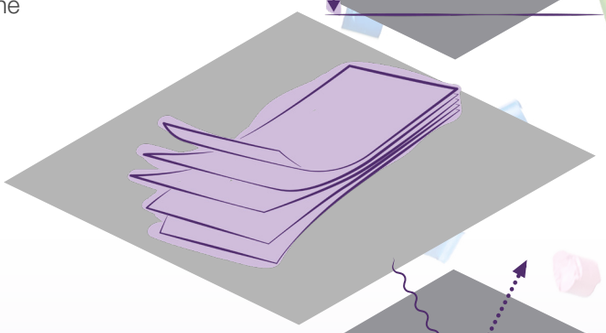
- Diffraction studies of solid-state structures
- Determine angle of crystallinity
- Differentiate single-crystal vs. polycrystalline



5 Multi-layer Analysis

FTIR, Raman microscopes

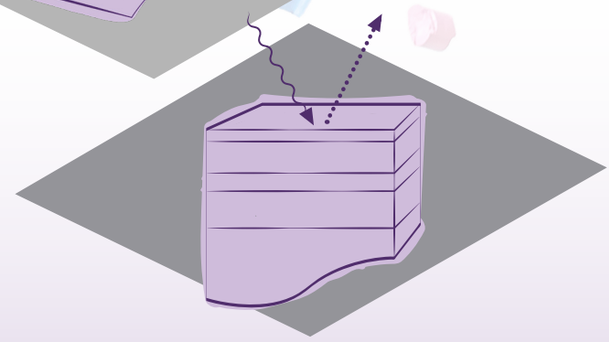
- Non-destructive confocal spectroscopy
- Identify minor chemical differences
- Locate contaminants and failures



6 Surface Chemistry

XPS, Microanalysis systems

- Analyze top atomic layer of surfaces
- Depth profiling of layered materials
- Study adhesions/barriers, depositions, thin films



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