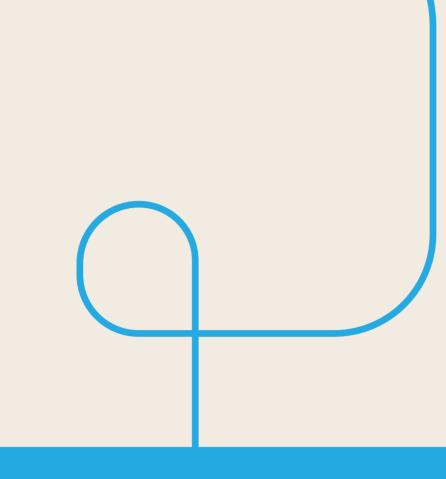
# Packaging characterisation







### OPTICAL PROPERTIES

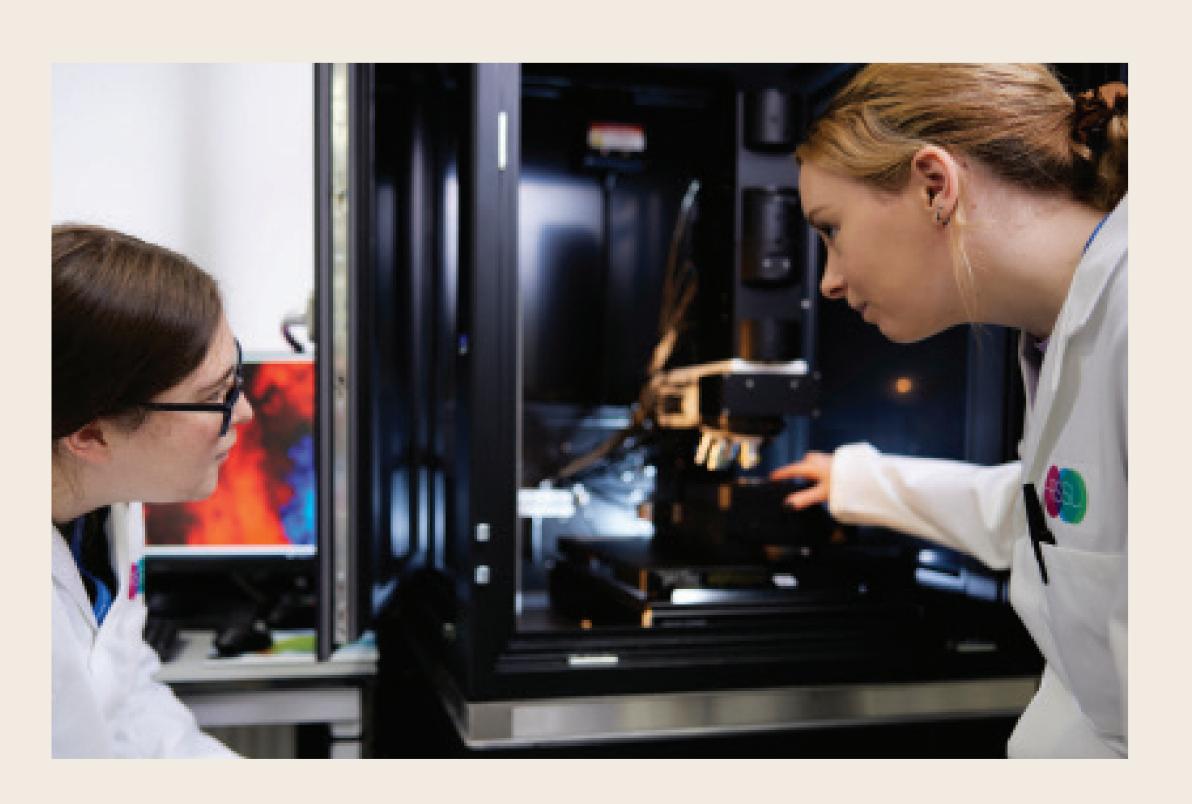
- Gloss and haze
- Luminous transmittance
- Colour and appearance

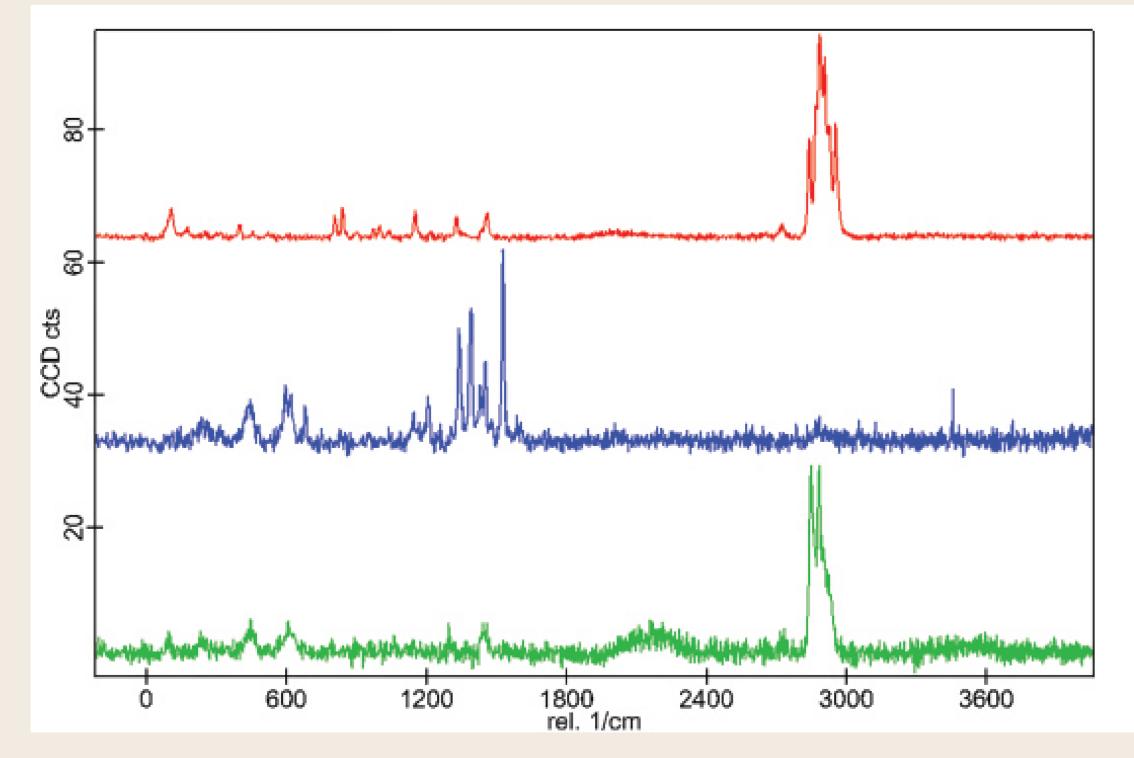
## INTEGRITY

- Tests:
  Burst, leak, creep, bubble
- Headspace analysis

# STRUCTURE AND COMPOSITION

• Structural evaluation:
Raman, FTIR, SEM, light microscopy,
tomography





#### Packaging Raman analysis

- Red polypropylene
- Blue ink / dye
- Green polyethylene

# Technical expertise

Method development

Manufacturing support

Packaging / structure relationship

Problem solving

Counterfeit identification

#### MECHANICAL PROPERTIES

Opening:

Tear and lid opening, easy opening, opening label peel

Sealing:

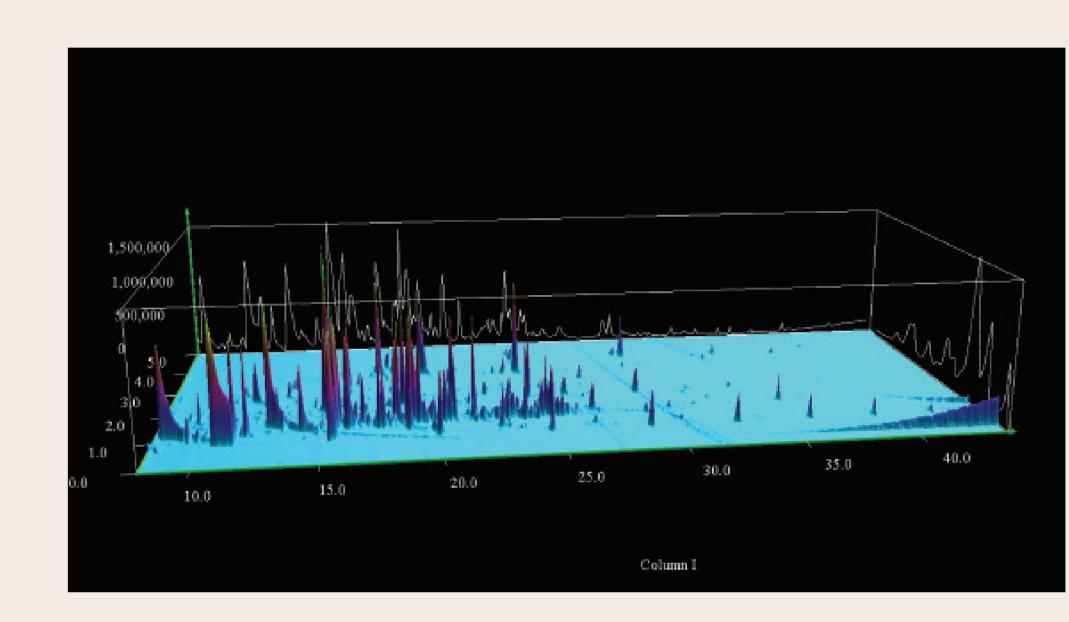
Seal initiation temperature, heat seal strength, seal strength, peel test

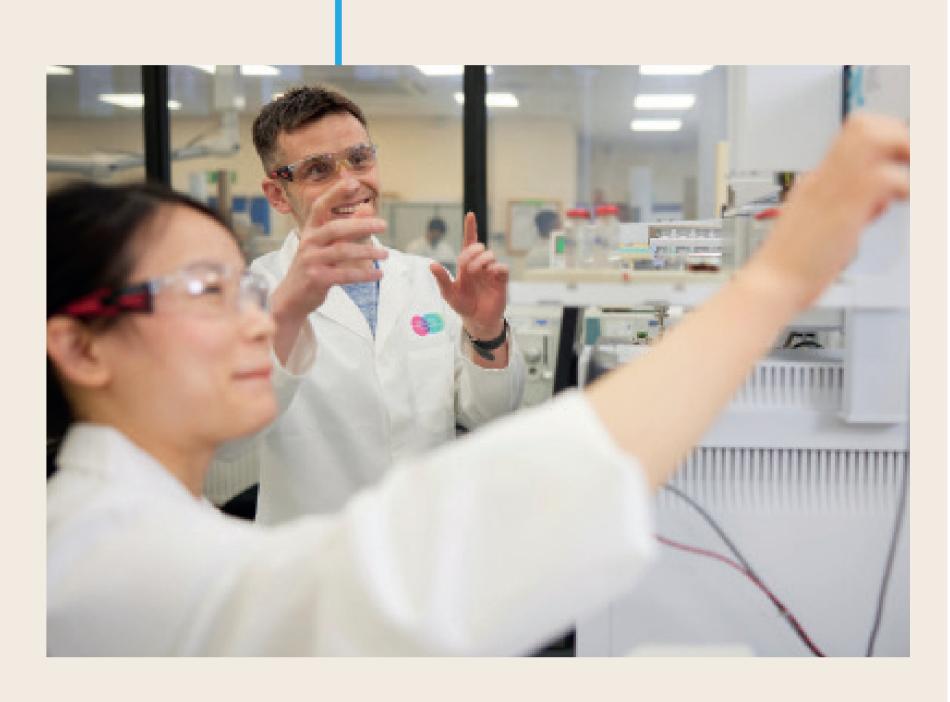
Material:

Tensile test, coefficient of friction, crush test, stiffness

#### PERMEATION

- Water vapour transmission
- Oxygen transmission rate
- Aroma barrier





Chromatogram of volatiles penetrating barrier film

#### SUBSTANCE

 Thickness, density, basis weight, yield



