In collaboration with:
• Characterisation of structure and rheology of 
  HR-US 102 allows:
  • Non-destructive / Non-invasive
  • Variety of measuring regimes - temperature
    ramp, kinetic, titration, flow-through modes
  • Broad dynamic range - diluted and
    concentrated samples
  • Digitally-controlled stirring system
  • Small sample volumes; 1mL - for standard
    cell, 0.03mL and higher for customer made
    measuring cells.
  • Measurements of the gelation temperatures and gelling speeds
  • Monitoring of compositional and microstructural changes at
    pre-gelation stage (A)
  • Monitoring of post-gelation re-arrangements

Advantages
• Monitors two independent characteristics, 
  ultrasonic velocity and attenuation in a board 
  frequency range, which provide structural, 
  thermodynamic and viscoelastic sample 
  information
• Able to analyse intermolecular forces, sample 
  structures, composition, phase transitions
• Analysis of transparent, translucent and 
  opaque samples

HR-US 102 provides a new tool for:
• Monitoring of the melting of carrageenan gel
• Detection of the gelation point and gelation interval
• Analysis of the transformations in the helical structure of polymer
• Characterisation of the gel network structure

HR-US 101 and 102 spectrometers allow:
• Monitoring of compositional and microstructural changes at 
  pre-gelation stage (A)
• Detection of beginning of gelation
• Characterisation of gelation process and micro-structure
• Monitoring of post-gelation re-arrangements

HR-US 102 as a tool for optimisation of starch preparation 
allows:
• Monitoring of the swelling of starch granules
• Measurements of the gelation temperatures and gelling speeds
• Optimisation of starch pre-hydration (soaking starch is water for a set 
  period of time before heating)

HR-US 102 allows:
• Monitoring of both slow and fast acid gelation of 
  whey proteins
• Detection and characterisation of the two 
  different pre-gelation, gelation and post-gelation 
  processes involved
• Characterisation of structure and rheology of 
  different gel networks formed

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