Overview of Biomass Characterization Capabilities for Softwoods, Hardwoods, Ag Crops/Residues, Algae/Plant Oils & Recycled Biomass

Analysis	Brief Description
Structure	SEM, Microscopy, TEM, MALDI Imaging, FQA Fiber Dimensions
Basic Constituents	Lignin, Cellulose, Hemicellulose, Extractives-Tannins, Ash, Elemental Analysis, Porosity
Structure of Lignin & Tannins	DP-Molecular Weight: Gel permeation chromatography (GPC) Functional Group Analysis: 1D, 2D NMR, FT-IR, UV-Vis, Wet-Chemistry, NIR
Structure of Cellulose	DP-Molecular Weight: Gel permeation chromatography (GPC), MALDI Ultrastructure: 13C CP/MAS NMR, FT-IR
Structure of Hemicellulose	DP-Molecular Weight: Gel permeation chromatography (GPC) Sugar Profile: Hydrolysis and anion-exchange chromatography Functional Group Analysis: 1D, 2D NMR, FT-IR, GC/HPLC/MS
Extractives	Structure Identification and quantification by GC/MS
Inorganic Elements	Inductively coupled plasma-atomic emission spectrometry
Triglycerides & Related Compounds	Structure Identification by GC/MS, 1D, 2D NMR