

# Pretreatments Capabilities

## Technologies

**Organosolv, Ionic Liquids**

**Autohydrolysis, Steam Explosion**

**Dilute Acid & Oxidative Reinforced Acidic**

**Alkali & Oxidative Reinforced Alkali**

**Fungal – Enzymatic**

**Analysis: Basic Biomass Constituents**

**Chemical Structure of Lignin, Cellulose, Hemicellulose,  
Metals/Extractives by NMR, FT-IR, SEM, AFM, DSC, GC/MS,  
HPLC, Molecular weights (GPC), Heat of Combustion, ICP  
Enzymatic Sugar release (HPLC) and Ethanol Production**