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Thermal characterization of various biomass materials for co-gasification with coal

Investigations into the gasification behavior during co-gasification of coal, biomass materials and coal/biomass blends prepared at different ratios (10:90, 20:80, 30:70, 40:60, and 50:50) have been conducted using a Thermogravimetric analysis (TGA) apparatus. Biomasses (pine wood, eucalyptus and cow dung) and coal (bituminous and lignite) were used. Devolatilization behavior of different coals and biomasses under heating conditions used (20 °C/min and high N₂ flow rate) typical of pyrolysis were investigated for kinetic parameter determination. Simulations were also done for material characterization.

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