Valorization of Napier grass via intermediate pyrolysis: Optimization using response surface methodology and pyrolysis products characterization

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Graphical Abstract

Napier grass → Pyrolysis → Pyrolysis oil → Bio-char

600°C, 50°C/min, 5L/min N₂

29wt% CH₄, H₂, CO, CO₂

51wt% Syn-gas

35wt% Aqueous phase

16wt% Organic phase

Oven dry (2-4mm)