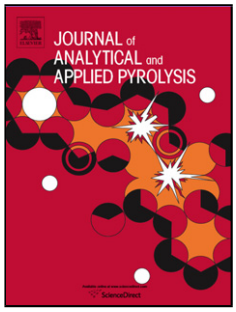
Accepted Manuscript



Title: Energy recovery analysis from sugar cane bagasse pyrolysis and gasification using thermogravimetry, mass spectrometry and kinetic models

Authors: Jayaraman Kandasamy, Iskender Gokalp, Sebastien Petrus, Veronica Belandria, Stephane Bostyn

PII: S0165-2370(17)30186-9
DOI: https://doi.org/10.1016/j.jaap.2018.02.003
Reference: JAAP 4256

To appear in: *J. Anal. Appl. Pyrolysis*

Received date: 21-2-2017
Revised date: 18-12-2017
Accepted date: 4-2-2018

Please cite this article as: Jayaraman Kandasamy, Iskender Gokalp, Sebastien Petrus, Veronica Belandria, Stephane Bostyn, Energy recovery analysis from sugar cane bagasse pyrolysis and gasification using thermogravimetry, mass spectrometry and kinetic models, Journal of Analytical and Applied Pyrolysis https://doi.org/10.1016/j.jaap.2018.02.003

Energy recovery analysis from sugar cane bagasse pyrolysis and gasification using thermogravimetry, mass spectrometry and kinetic models

Jayaraman KANDASAMY, Iskender GOKALP, Sebastien Petrus, Veronica Belandria, Stephane Bostyn

Institut de Combustion, Aérothermique, Réactivité et Environnement' ICARE-CNRS; Orleans Cedex 2, France

Corresponding Author

Corresponding author's name **: Kandasamy Jayaraman**

Contact details : E-mail : jayaraman_mit@yahoo.com

Phone number : 0033753183282

Highlights

- Heating rate effect of sugarcane bagasse pyrolysis on char yield
- Product gas compositions during pyrolysis and gasification at different temperature ranges
- Appropriate temperature range for optimum gasification conversion
- Estimation of kinetic constants to different char production rates
- Dependencies of kinetic parameters under various conversion levels

ABSTRACT : s

The energy recovery from biomass and it's utilisation as fuels and chemicals has been gained interest in recent years. The production of syngas from sugarcane pyrolysis and gasification is investigated. Pyrolysis studies of sugar cane bagasse are performed using thermogravimetry (TG) at different heating rates (10, 20, 40, 100, 250 K/min). A mass spectrometry (MS) coupled with