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List of Abbreviations and Symbols

A	Arrhenius pre-exponential factor, s ⁻¹
C ₁	Constant
E	Activation energy, kJ/mole
E _α	Activation energy (variation with conversion)
f(α)	Reaction model based function of conversion
g(α)	Integral conversion function
ΔG	Change in free energy, MJ/mole
ΔH	Change in enthalpy, MJ/mole
k(T)	Temperature dependent reaction rate constant
m _o	Initial weight of sample
m _t	Sample weight at time t
m _f	Final sample weight
P(x)	Conversion function (= x-2e-x)
R	Universal gas constant (=8.314 J/mol.K)
t	Time, s or min
T	Temperature, K
α	Conversion
β	Heating rate
T _m	Peak temperature
Π(x)	Temperature integral approximation
R ²	Correlation coefficient
n	Order of reaction
TGA	Thermogravimetric analysis
DTG	Derivative of thermogravimetric analysis
FTIR	Fourier transform infrared spectroscopy
MC	Moisture
VM	Volatile matter
FC	Fixed carbon
NIST	National Institute of Standards and Technology
PID	Proportional–integral–derivative
GC	Gas chromatography
NMR	Nuclear magnetic resonance

GC-MS	Gas chromatography–mass spectrometry
k	Rate constant
KAS	Kissinger-Akahira-Sunose
OFW	Ozawa-Flynn-Wall
DAEM	Distributed activation energy model
CR	Coats-Redfern model
MLR	Multiple linear regression model
SB	Sugarcane bagasse
RH	Rice husk
WS	Wheat straw
BT	Banana trunk
AS	Arhar stalk
RS	Rice straw
PMW	Paper mill waste
SCL	Sugar cane leave
PS	Peanut shell
