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ABBREVIATION

Symbol	Meaning	Unit
A	Pre-exponential or frequency factor	s^{-1}
A/F	Air to fuel ratio	-
CV	Calorific value	J/kg
daf	Dry and ash free	-
DTG	Differential thermogravimetry	-
d	Diameter	cm
DSC	Differential scanning calorimeter	-
E_a	Activation energy	kJ/mol
ER	Equivalent ratio	-
FT-IR	Fourier transform infrared spectrometer	-
g	Gravitational force, 9.81 m/s^2	m/s^2
H/C	Hydrogen to carbon ratio	-
HHV	High heating value	kJ/mol
ICTAC	International Confederation for Thermal Analysis and Calorimetry	-
L	Bed height	cm
LHV	Low heating value	kJ/mol
m	Mass	kg

MS	Mass spectrometer	-
MSW	Municipal solid waste	-
N	Number of data	-
n	Order of reaction	-
P	Pressure	Pa
R	Universal gas constant in molar (8.3145)	J/mol.K
Re	Reynolds number	-
S/C	Steam to carbon ratio	-
SBR	Steam to biomass ratio	-
SRC	Stream carbon ratio	-
T	Temperature, Average temperature	K
t	Time	s
TG	Thermogravimetry	-
TGA	Thermogravimetric analysis	-
U	Gas superficial velocity	m/s
V	Volume	m^3

Greek letters

Symbol	Meaning	Unit
ε	Bed voidage	-
Ø	Particle sphericity	-
μ	Gas viscosity	kg/ms
ρ	Density	kg/m^3
ρ_{gas}	Density of gas products	m^3/kg

Subscripts

Symbol	Meaning
biomass	Biomass
g, gas	Gas production
i	Mol faction value of experiments
liquid	Liquid
mf	Minimum fluidization
p	Particle
solid	Solid