Supplementary Material

Table S1. Summary of most preferred synthesis routes for biochar production from different feedstocks.

Biomass source	Method of char preparation	Reaction conditions	References
Wood waste	Pyrolysis	Temperature: 500^{0}C, Time: 1h	[1]
Pine	Pyrolysis	Temperature: 550^{0}C to 600^{0}C	[2]
Rice straw	Hydrothermal carbonization	Temperature: 500 °C, Time: 8 h	[3]
Wheat straw	Pyrolysis	Temperature: 300 to 700^{0}C at a rate of 20^{0}C/min, Time: 4 h	[4]
Waste sludge	Pyrolysis in vacuum tube furnace	Temperature: 400^{0}C, 500^{0}C, 600^{0}C, 700^{0}C	[5]
Maize straw	Pyrolysis in a muffle furnace	Temperature: 500^{0}C, Time: 2 h	[6]
Wood chips	Pyrolysis	Temperature: 500^{0}C	[7]
Corn stover	Pyrolysis	Temperature: 600^{0}C, Time: 2 h	[8]
Peanut shell	Pyrolysis in a tubular furnace	Temperature: 350, 400, 450, 500, 550^{0}C at a rate of 10^{0}C/min, Time: 2 h	[9]
Vermi compost	Pyrolysis in a tubular furnace	Temperature: 500^{0}C at a rate of 10^{0}C/min, Time: 2 h	[10]
Paper sludge	Slow pyrolysis in a muffle furnace	Temperature: 300^{0}C and 600^{0}C, Time: 2 h	[11]
Corn cob	Nabertherm furnace at three different temperatures	Temperature: 300^{0}C, 450^{0}C, 650^{0}C	[12]
Ground corn straw	Pyrolysis in muffle furnace and subsequently grounded using a ball mill	Temperature: 500^{0}C, Time: 2 h	[13]

Water hyacinth	Muffle furnace	Temperature: 475-500^{0}C, Time: 2 h	[14]

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