

## **Supporting information**

# **Properties of Biochar Obtained from Tropical Crop Wastes Under Different Pyrolysis Temperatures and Its Application on Acidic Soil**

**Shuhui Song<sup>1,2,†</sup>, Ping Cong<sup>3,†</sup>, Chao Wang<sup>2</sup>, Puwang Li<sup>2,\*</sup>, Siru Liu<sup>2</sup>, Zuyu He<sup>2</sup>, Chuang Zhou<sup>2</sup>, Yunhao Liu<sup>2</sup> and Ziming Yang<sup>2,\*</sup>**

<sup>1</sup> The College of Natural Resources and Environment, South China Agricultural University, Guangzhou 510642, China

<sup>2</sup> Key Laboratory of Tropical Crops Nutrition of Hainan province, South Subtropical Crop Research Institute, Chinese Academy of Tropical Agricultural Sciences, Zhanjiang 524091, China

<sup>3</sup> Key Laboratory of Tobacco Biology and Processing, Ministry of Agriculture and Rural Affairs, Tobacco Research Institute of Chinese Academy of Agricultural Sciences, Qingdao 266101, China

\* Correspondence: puwangli@163.com (P.L.); yangziming2004@163.com (Z.Y.)

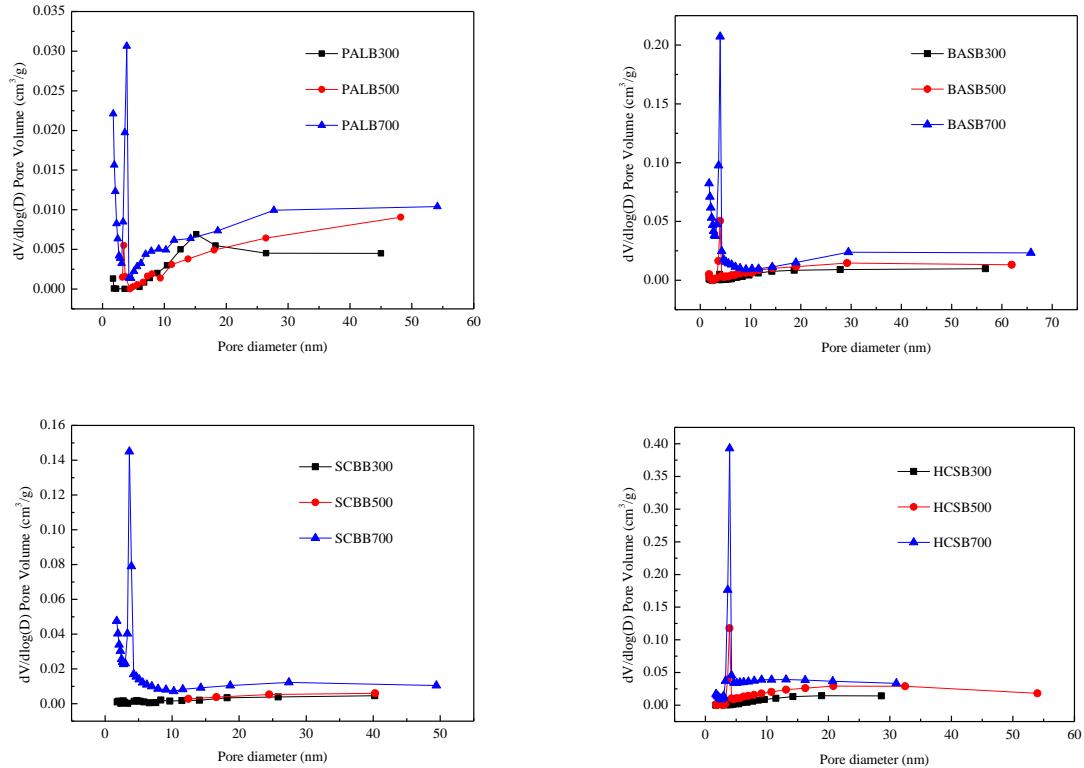
† These authors contributed equally to this work.

- **Table S1** Inorganic elemental contents of biochar prepared at different temperatures
- **Figure S1** Distribution of pores. PALB300, PALB500, PALB700: biochar from pineapple leaves at 300 °C , 500 °C, 700 °C, respectively. BASB300, BASB500, BASB700: biochar from banana stems at 300 °C, 500 °C, 700 °C, respectively; SCBB300, SCBB500, SCBB700: biochar from sugarcane bagasse at 300 °C, 500 °C, 700 °C, respectively. HCSB300, HCSB500, HCSB700: biochar from horticultural substrate at 300 °C, 500 °C, 700 °C, respectively. The same below.

**Table S1.** Inorganic elemental contents of biochar prepared at different temperatures.

	P	S	Mg	Ca	Fe	Al
PALB300	0.21±0.01h	0.40±0.08e	0.40±0.01g	0.62±0.03gh	0.36±0.01f	0.32±0.01h
PALB500	0.24±0.01g	0.27±0.01f	0.43±0.01g	0.67±0.03g	0.37±0.01f	0.38±0.01fg
PALB700	0.25±0.01g	0.25±0.01fg	0.55±0.02f	0.84±0.04g	0.45±0.01d	0.53±0.01e
BASB300	0.54±0.01f	0.50±0.01d	1.83±0.06c	1.56±0.07f	0.10±0.01j	0.03±0.01k
BASB500	0.74±0.01e	0.53±0.07d	2.77±0.09b	2.62±0.12e	0.29±0.01g	0.39±0.01f
BASB700	0.98±0.01d	0.43±0.01e	4.01±0.13a	3.61±0.17d	0.38±0.01e	0.88±0.02d
SCBB300	0.16±0.01i	0.21±0.02g	0.08±0.01h	0.18±0.01i	0.16±0.01i	0.12±0.01j
SCBB500	0.20±0.01h	0.13±0.01h	0.13±0.01h	0.30±0.01hi	0.28±0.01g	0.36±0.01g
SCBB700	0.17±0.01i	0.13±0.01h	0.11±0.01h	0.25±0.01i	0.20±0.01h	0.21±0.01i
HCSB300	1.17±0.01c	0.68±0.01c	0.87±0.03e	6.63±0.34c	1.51±0.02c	0.94±0.02c
HCSB500	1.52±0.01a	0.86±0.02a	1.21±0.04d	8.63±0.40b	1.63±0.02b	1.44±0.02b
HCSB700	1.35±0.01b	0.77±0.01b	1.26±0.04d	9.20±0.43a	1.71±0.02a	1.76±0.03a

PALB300, PALB500, PALB700: biochar from pineapple leaves at 300 °C , 500 °C, 700 °C, respectively; BASB300, BASB500, BASB700: biochar from banana stems at 300 °C, 500 °C, 700 °C, respectively; SCBB300, SCBB500, SCBB700: biochar from sugarcane bagasse at 300 °C, 500 °C, 700 °C, respectively. HCSB300,HCSB500, HCSB700: biochar from horticultural substrate at 300 °C, 500 °C, 700 °C, respectively. The same below.



**Figure S1.** Distribution of pores.