

Supplementary Information

Effects of cold plasma treatment on physical modification and endogenous hormone regulation in enhancing seed germination and radicle growth of mung bean

Thi Quynh Xuan Le^{1,2}, Linh Nhat Nguyen¹, Thanh Tung Nguyen¹, Eun Ha Choi³, Quang Liem Nguyen¹, Nagendra Kumar Kaushik^{3,*} and Nguyen Thuan Dao^{1,2,*}

¹ Laboratory of Plasma Technology, Institute of Materials Science, Vietnam Academy of Science and Technology (VAST), 18 Hoang Quoc Viet Road, Cau Giay District, Hanoi 100000, Vietnam

² Graduate University of Science and Technology (GUST), VAST, Hanoi 100000, Vietnam

³ Plasma Bioscience Research Center, Department of Electrical and Biological Physics, Kwangwoon University, Seoul 01897, Korea

* Correspondence: kaushik.nagendra@kw.ac.kr (N.K.K.); thuandn@ims.vast.ac.vn (N.T.D.)

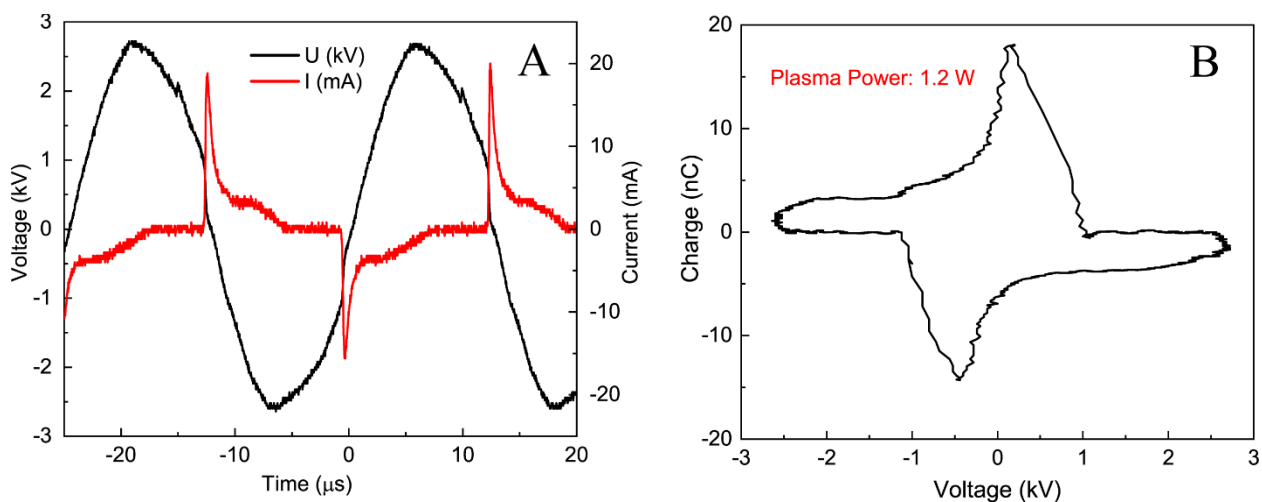


Figure S1. Characteristics of the plasma jet: (A) voltage–current wavefunction and (B) Lissajous graph of the Ar plasma jet. The dissipated plasma power was estimated using a capacitance C means of 1 nF.

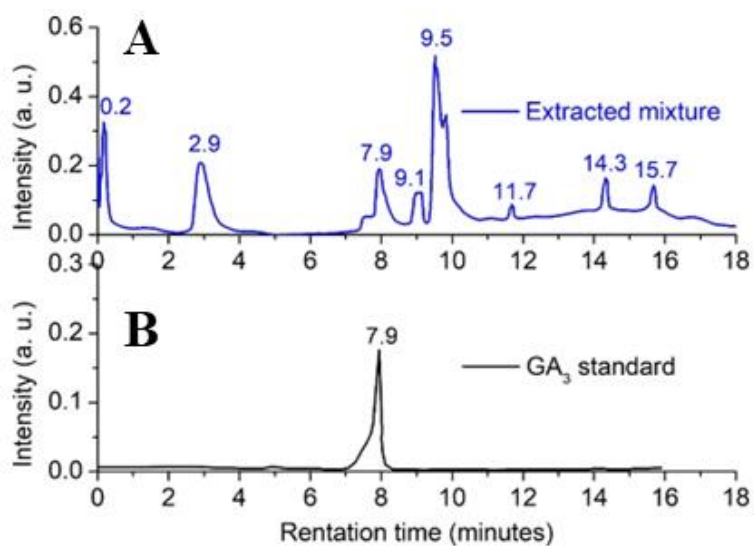


Figure S2. (A) Liquid chromatograms of the extracted liquid (blue) vs. (B) the calibration curve of the standard GA_3 (Sigma – 48880) (black). The retention time of GA_3 is from 7 to 8 minutes, peaking at 7.9. The amount of gibberellic acid (GA_3) in extracted solution is determined based on the integrated area of the LC spectrum, with averaging of three measurements.

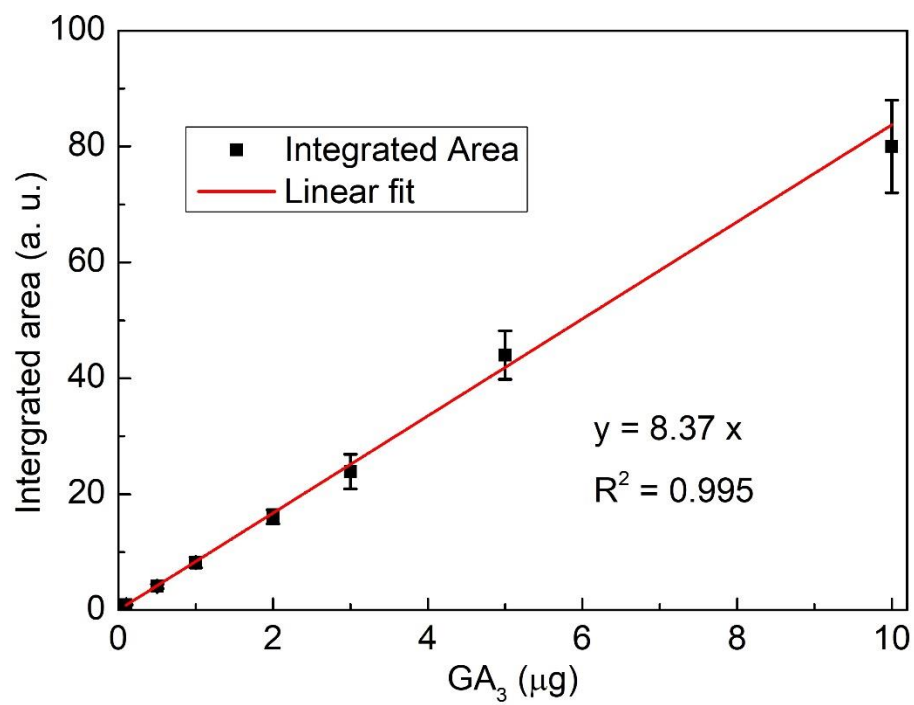


Figure S3. Calibration curve derived from the integrated area between 7 to 8 minutes retention time in the LC spectrum vs. different amounts (0.1; 0.5; 1; 2; 3; 5; 10) μg of the standard GA₃.