

Supporting Information

Isotope Signature Characterization of Pb and U in Open Air by Laser-Ablation Mass Spectrometry

Yun Shen Zhou,^{*,a,#} Yao Lu,^{a,#} Meng Meng Wang,^a Lei Liu,^a Xi Huang,^a Li Jia Jiang,^a

Lan Jiang,^b Jean-François Silvain,^c and Yong Feng Lu^{*,a}

^aDepartment of Electrical and Computer Engineering, University of Nebraska-Lincoln, Lincoln,
Nebraska 68588-0511, United States of America

^bLaser Micro/Nano-Fabrication Laboratory, School of Mechanical Engineering, Beijing Institute
of Technology, Beijing 100081, P. R. China

^cInstitut de Chimie de la Matière Condensée de Bordeaux – ICMCB-CNRS 87, Avenue du
Docteur Albert Schweitzer, F-33608 Pessac Cedex, France

[#]These authors contributed equally to the work.

Corresponding Author

*Prof. Yong Feng Lu, Email: ylu2@unl.edu, Phone: +1-402-472-8323. Fax: +1-402-472-4732.

*Prof. Yun Shen Zhou, Email: yunshen.zhou5@gmail.com, Phone: +1-402-472-3441. Fax: +1-
402-472-4732.

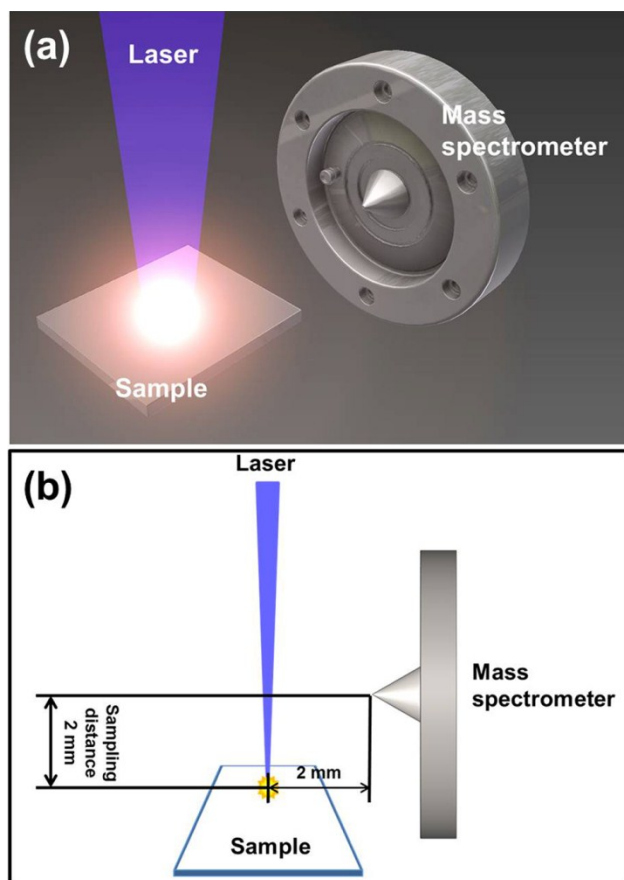


Figure S1. (a) Schematic of the OA-LAMS system. (b) The diagram showing the MS sampling distance.

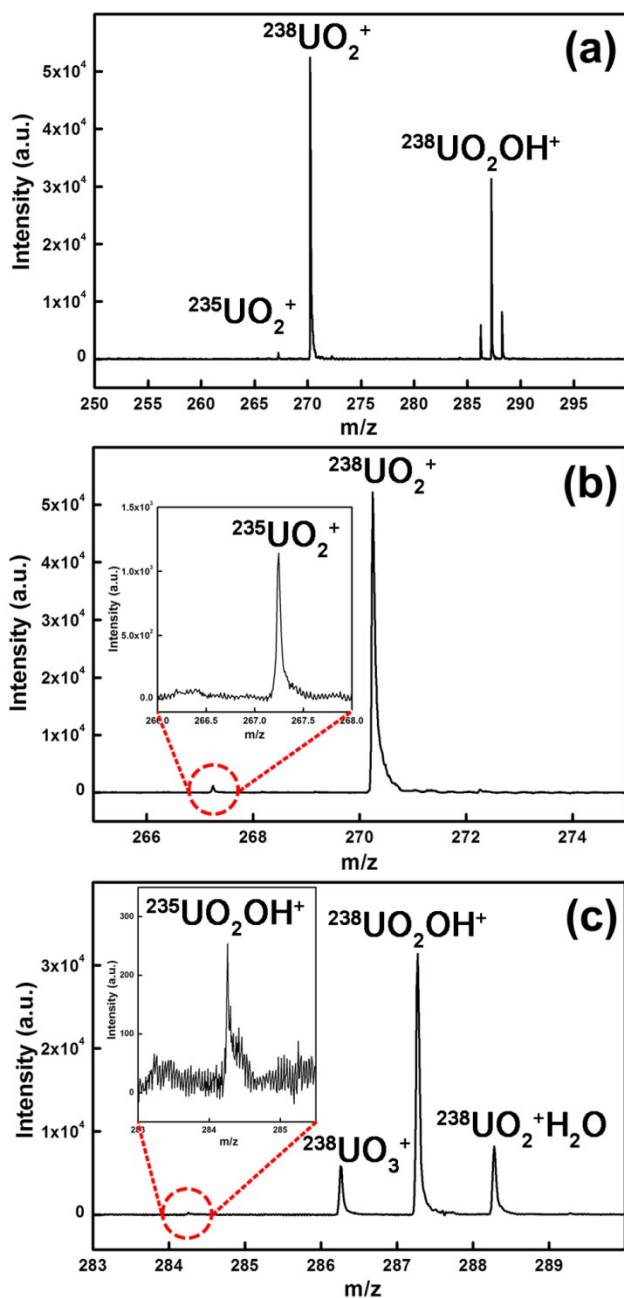


Figure S2. (a) A typical OA-LAMS spectrum of the U-C sample at the positive ion mode. (b) A zoomed-in view showing ²³⁵UO₂⁺ and ²³⁸UO₂⁺. (c) A zoomed-in view showing ²³⁵UO₂OH⁺ and ²³⁸UO₂OH⁺. Due to its low abundance, ²³⁵U signals were barely visible in Figure S2a. Corresponding zoomed-in spectra were shown in Figures S2b and S2c, in which ²³⁵UO₂⁺ and ²³⁵UO₂OH⁺ were discerned at 267 and 284, respectively.

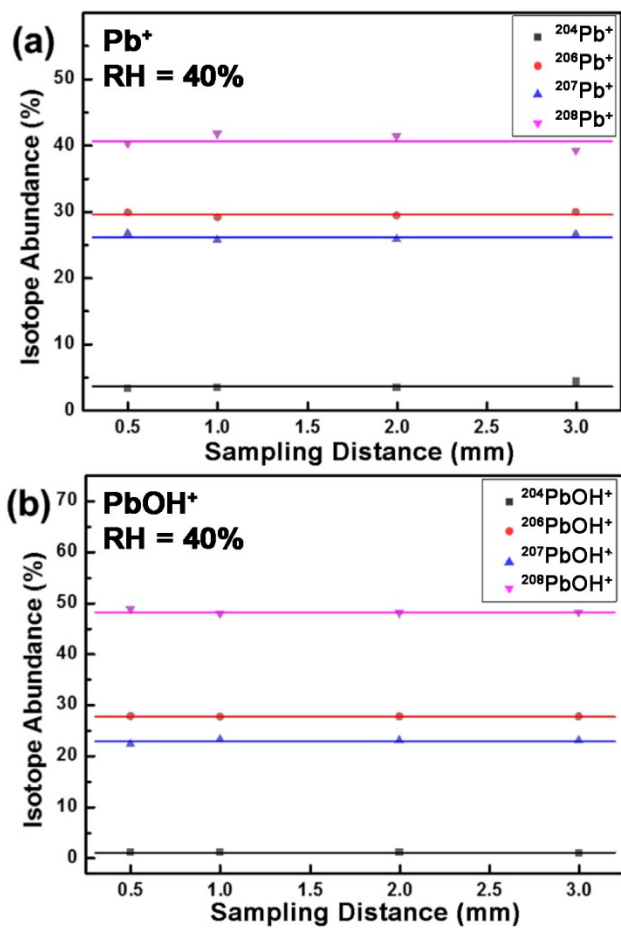


Figure S3. Dependence of the Pb isotope abundance on the sampling distance retrieved from (a) Pb⁺ and (b) PbOH⁺.