Dear Editors,

We would like to submit the enclosed manuscript entitled “Micron-scale phenotyping techniques of maize vascular bundles based on X-ray micro-computed tomography”, which we wish to be considered for publication in “JoVE”. No conflict of interest exits in the submission of this manuscript, and manuscript is approved by all authors for publication. All the authors listed have approved the manuscript that is enclosed.

In this work, we provide novel detailed methods to enhance the maize tissue contrast through ‘sample preparation protocol’ for ordinary micro-CT scanning. Based on the high resolution CT images, we introduced the image processing workflows, which are able to effectively and accurately analyze microscopic phenotypes of maize vascular bundles.

I hope this paper is suitable for “JoVE”. We deeply appreciate your consideration of our manuscript, and we look forward to receiving comments from the reviewers. If you have any queries, please don’t hesitate to contact us.

Thank you and best regards.