

Supporting Information

Similarities and Critical Differences in Heavy Alkali-Metal Rubidium and Cesium Effects on Chalcopyrite Cu(In,Ga)Se₂ Thin-Film Solar Cells

Shogo Ishizuka^{1}, Noboru Taguchi², and Paul J. Fons³*

¹Research Center for Photovoltaics, National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1 Umezono, Tsukuba, Ibaraki 305-8568, Japan

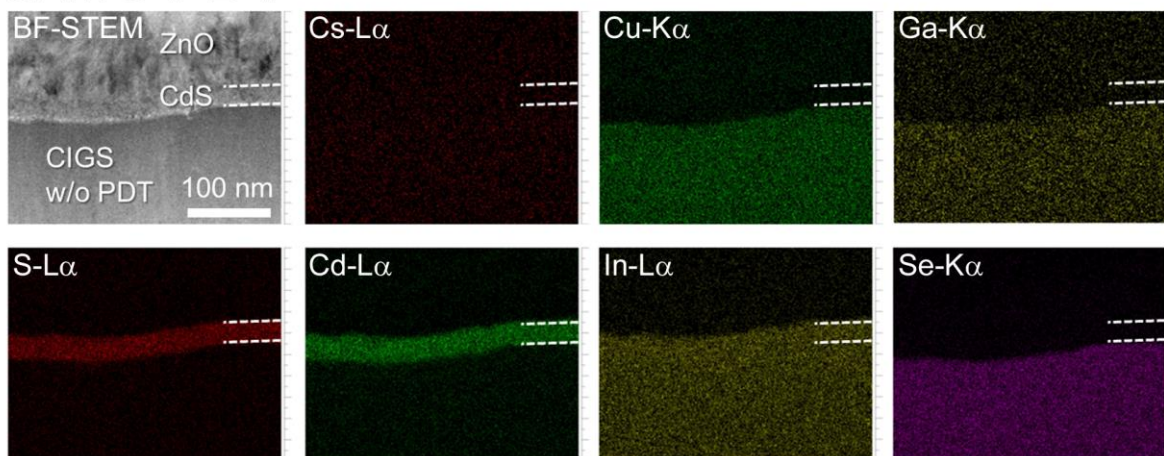
²Research Institute of Electrochemical Energy, National Institute of Advanced Industrial Science and Technology (AIST), 1-8-31 Midorigaoka, Ikeda, Osaka 563-8577, Japan

³Nanoelectronics Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan

**E-mail: shogo-ishizuka@aist.go.jp*

Supplementary Figures

a w/o PDT



b CsF-PDT

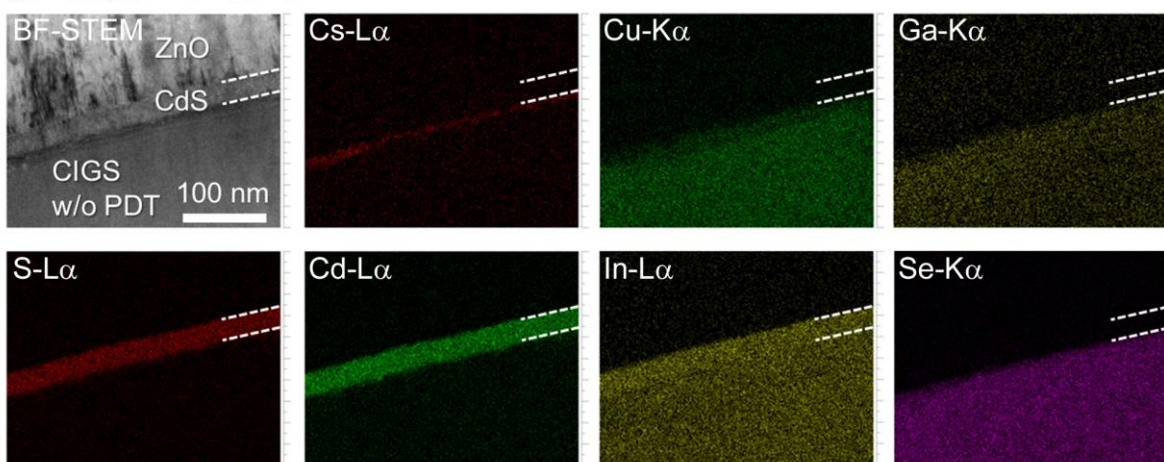


Figure S1. Cross sectional TEM-EDX measurement results obtained from CIGS devices fabricated (a) w/o PDT and (b) with CsF-PDT corresponding to the images shown in Figure 1 in the main text. Note that the elemental In signal observed in the CdS layer is an artifact due to the energy overlap with Cd-L β at 3.3 keV.

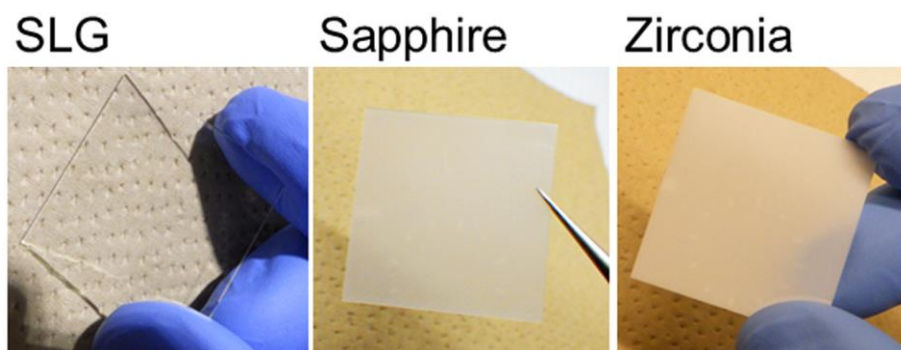


Figure S2. Photos of substrate materials ($3 \times 3 \text{ cm}^2$) used in the present work.