

Supporting Information

**Novel Cu-Mg-Ni-Zn-Mn Oxide Thin Film Electrodes  
for NIR Photodetector Applications**

*Tzu-Hsuan Wang, Chia-Tung Kuo, Pin-Hung Chung, Chao-I Liu, You-Yan Lu, Yi-Ting Lee  
and Tri-Rung Yew\**

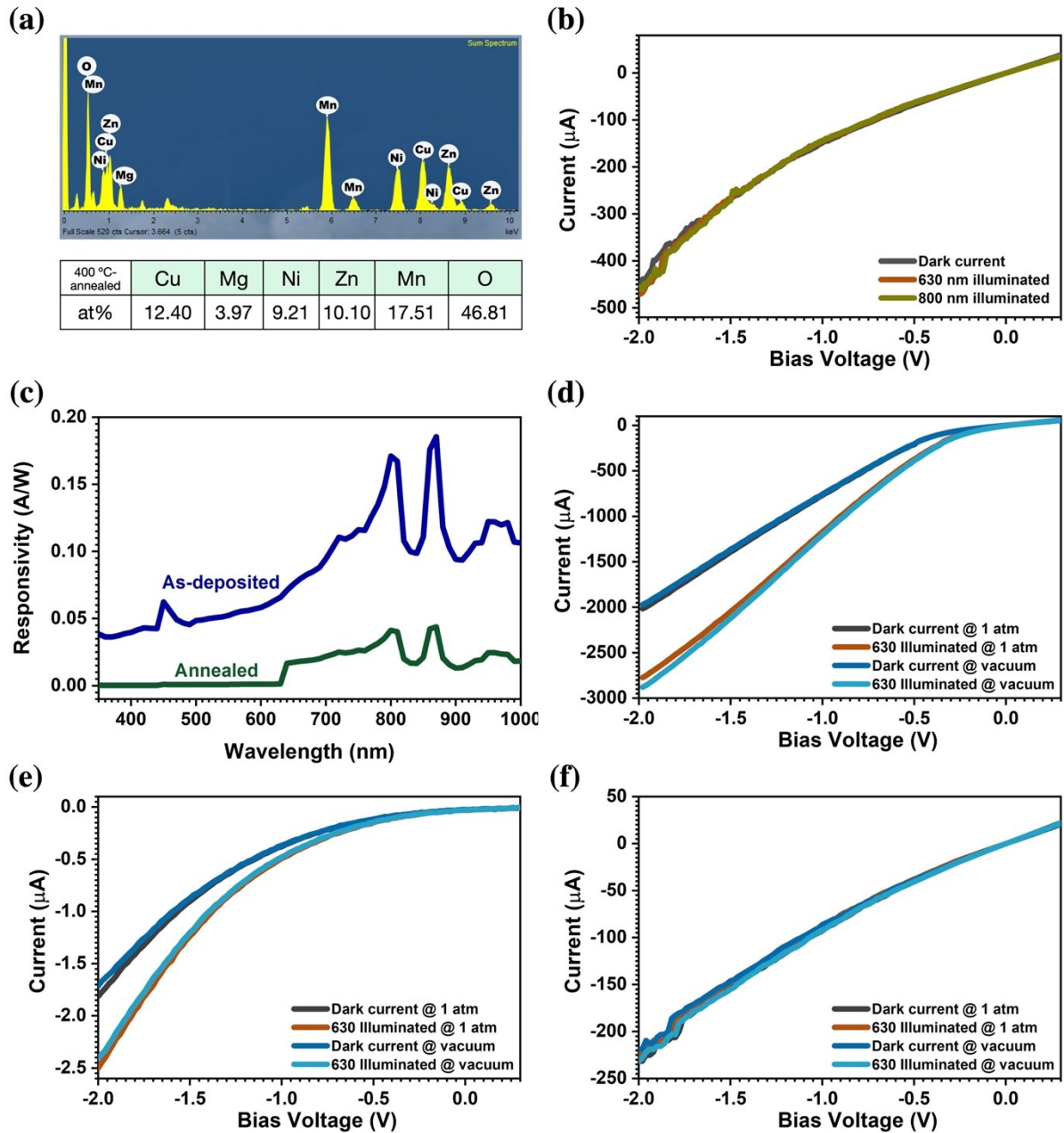
Department of Materials Science and Engineering, National Tsing Hua University,  
Hsinchu 30013, Taiwan

\*Corresponding author:

Email: tryew@mx.nthu.edu.tw, (Tri-Rung Yew).

Phone: +886-3-5742573.

Fax: +886-3-5722366



**Figure S1.** (a) The EDX (equipped in TEM) spectra of 400 °C-annealed CMNZM oxide thin films, showing the atomic ratio of Cu: Mg: Ni: Zn: Mn: O = 12.40: 3.97: 9.21: 10.10: 17.51: 46.81. (b) The  $I-V$  curves of 800 °C-annealed CMNZM oxide photodetectors, showing no photocurrent when applying 630 nm and 800 nm illumination. (c) The responsivity versus various wavelength for as-deposited and 400 °C-annealed photodetectors. The  $I-V$  curves measured in vacuum of (d) the as-deposited, (e) 400 °C-annealed, and (f) 800 °C-annealed CMNZM oxide photodetectors with and without 630 nm and 800 nm illumination.