Electronic Supplementary Material (ESI) for RSC Advances.


# Heterojunction $Cr_2O_3$/CuO:Ni photocathodes for enhanced photoelectrochemical performance

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## Supplementary Figure and Table

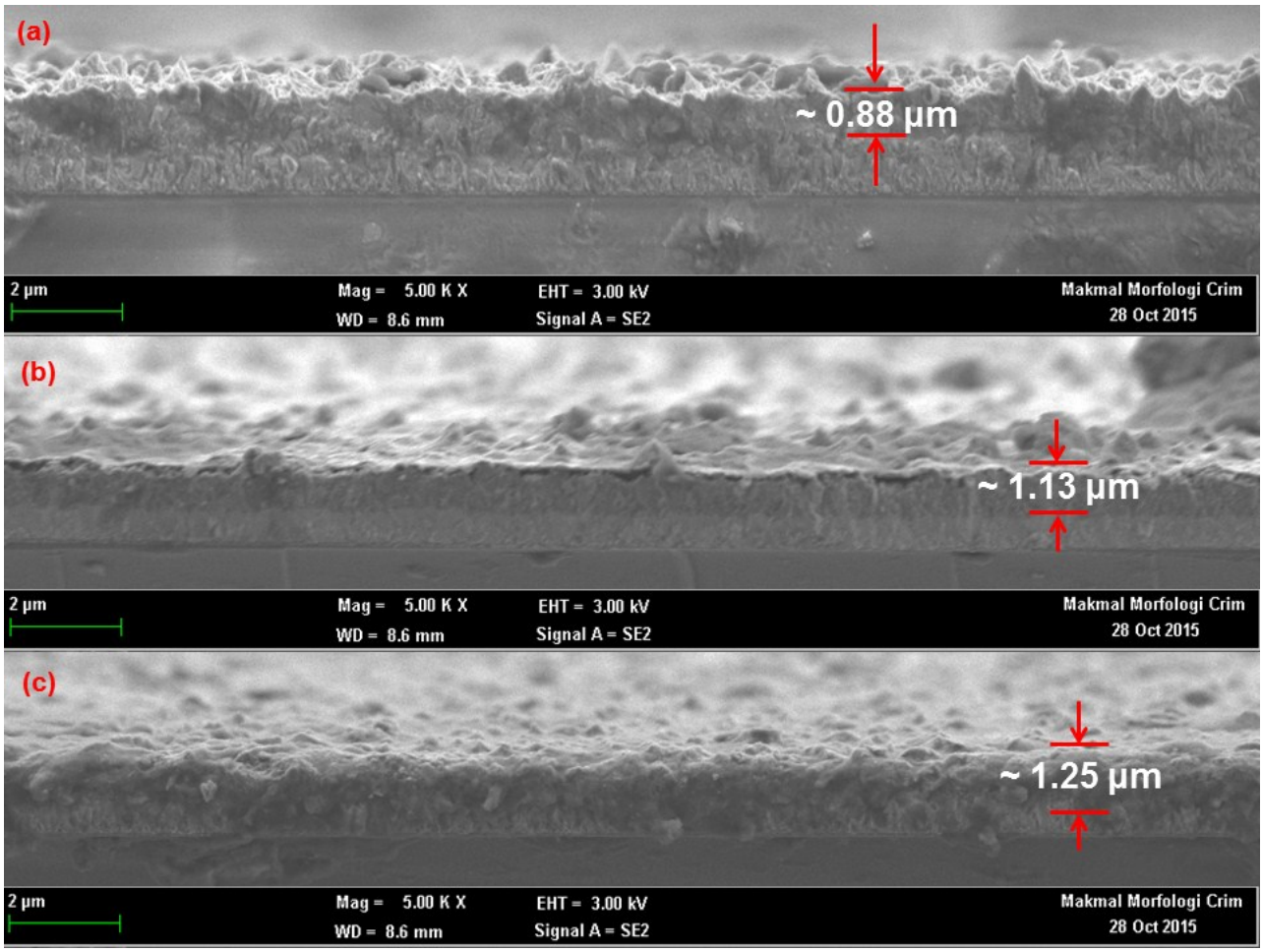


**Fig. S1** : Thickness of (a) $Cr_2O_3$, (b) $Cr_2O_3$/CuO and (c) $Cr_2O_3$/CuO:Ni thin film photocathodes.

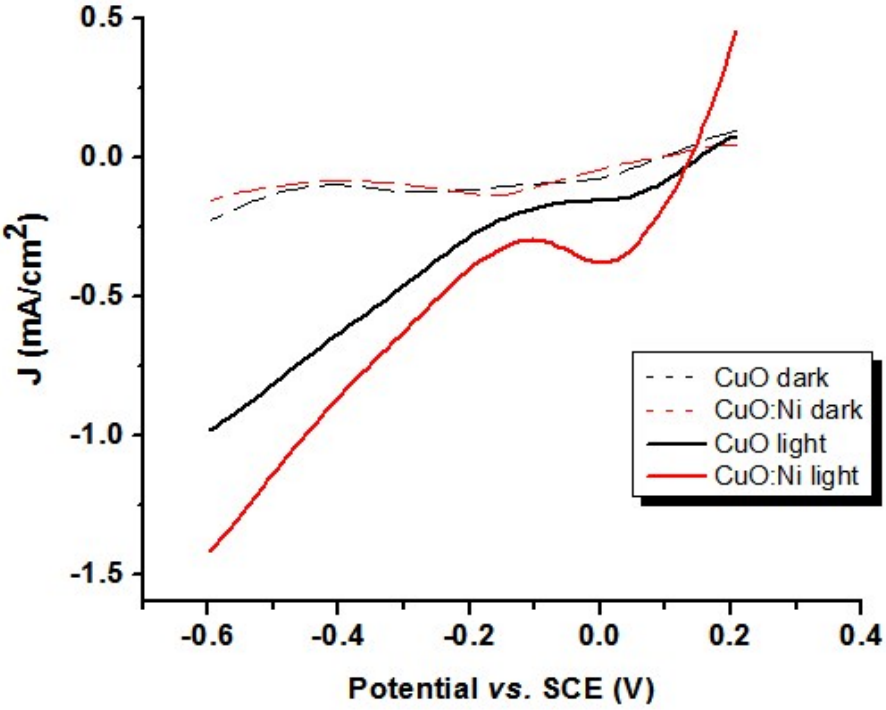


**Fig. S2** : The photocurrent density-potential curves of CuO and CuO:Ni thin film.

**Table S1**: Photocurrent density of CuO and CuO:Ni thin film photocathodes

| Samples | Ni content (%) | Photocurrent Density *vs.* SCE at -0.6 V ($mAcm^{-2}$) |
|---|---|---|
| **CuO** | - | 0.98 |
| **CuO:Ni** | 0.50 | 1.40 |

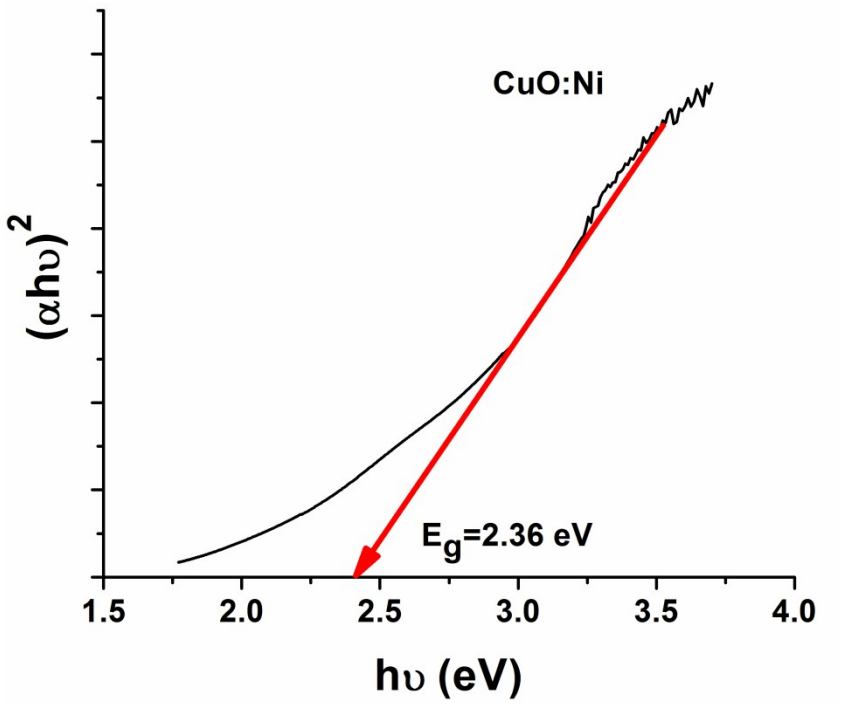


**Fig. S3** : Tauc plot of CuO:Ni thin film.