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## Supplementary Information Enhanced photoresponse of epitaxially grown ZnO by MoO<sub>3</sub> surface functionalization

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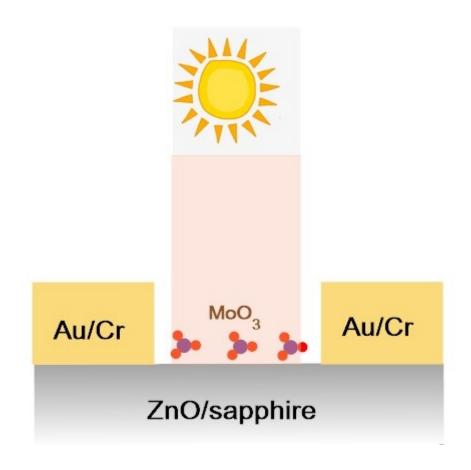


Figure S1 Schematic device structure of  $MoO_3$  modified ZnO

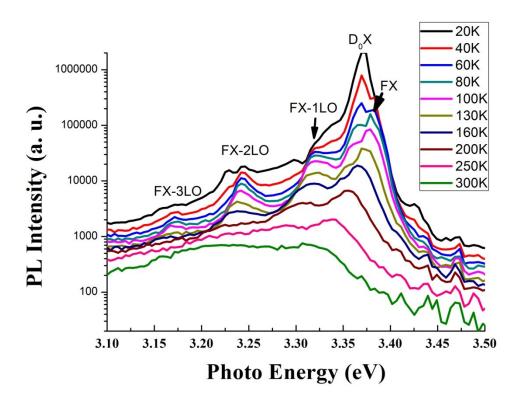


Figure S2 Temperature dependent PL spectra of 0.5 nm modified ZnO

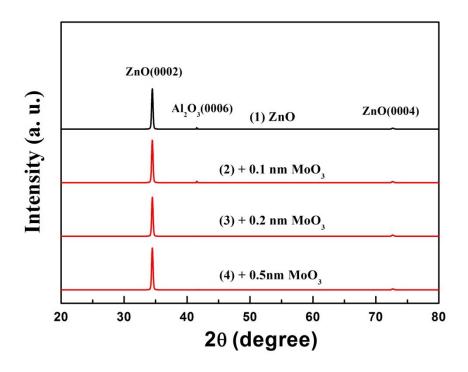


Figure S3 XRD spectra of ZnO thin film before and after the subsequential deposition of 0.5 nm  $MoO_3$ .

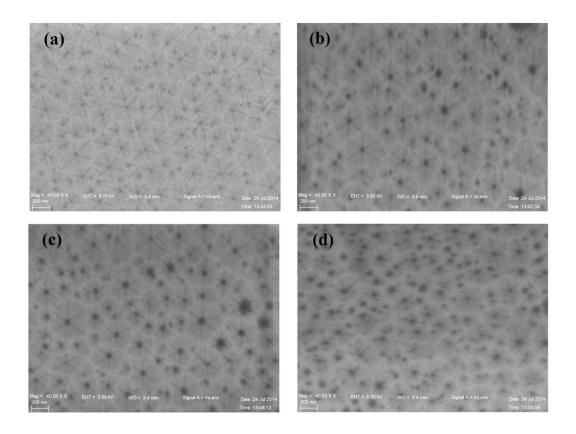


Figure S4 SEM images of (a) pristine ZnO and after (b) 0.1, (c) 0.2, and (d) 0.5 nm  $MoO_3\,modification.$