

Investigation on structural, morphological, electronic and photovoltaic properties of perovskite thin film by introducing lithium halide

Zhenhua Lin,^{a,#} Hai Zhu,^{b,#} Long Zhou,^a Jianhui Du,^a Chunfu Zhang,^a Qing-Hua Xu,^b

Jingjing Chang,^{a*} Jianyong Ouyang,^c Yue Hao^a

^aState Key Laboratory of Wide Band Gap Semiconductor Technology, Shaanxi Joint Key Laboratory of Graphene, School of Microelectronics, Xidian University, 2 South

Taibai Road, Xi'an, China 710071. Mail: jjingchang@xidian.edu.cn

^bDepartment of Chemistry, National University of Singapore, 3 Science Drive 3,
Singapore 117543.

^cDepartment of Materials Science and Engineering, National University of Singapore,
7 Engineering Drive 1, Singapore 117574.

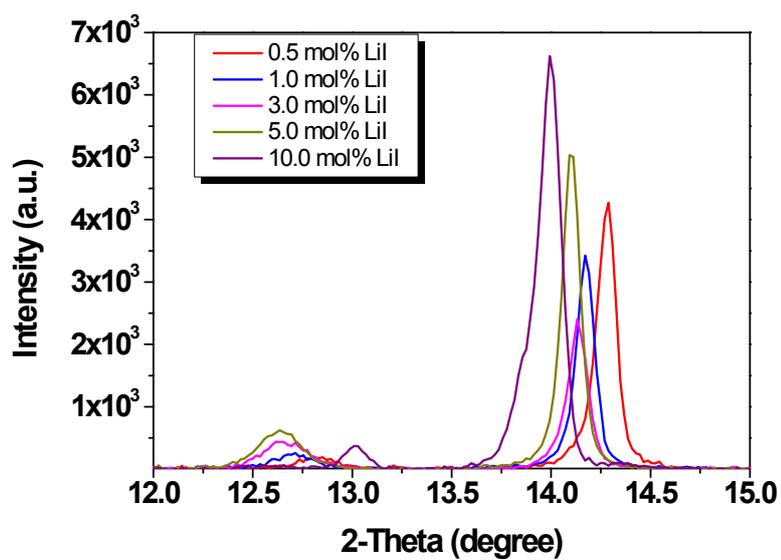


Figure S1. Zoom-in XRD spectra for perovskite thin films with different molar doping ratios of LiI.

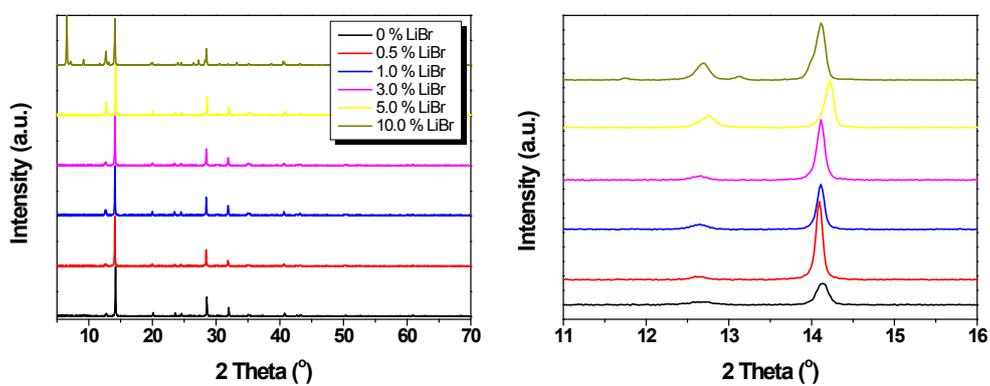


Figure S2. XRD spectra of perovskite thin films with different molar doping ratios of LiBr.

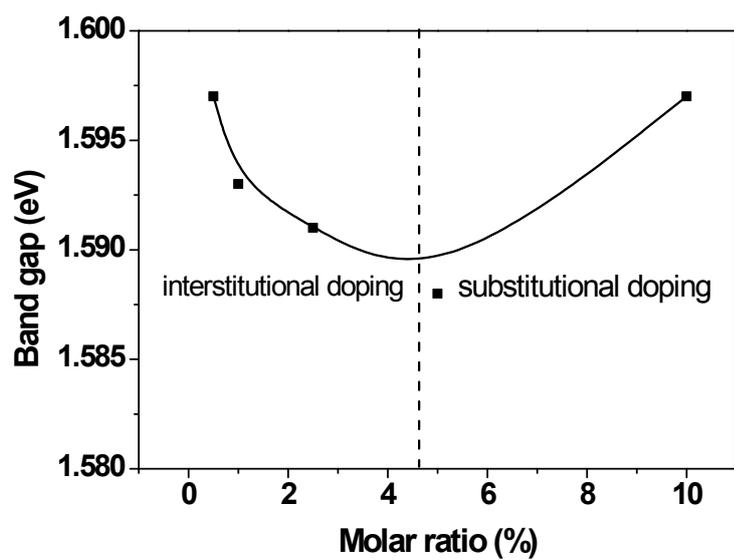


Figure S3. The band gap of Li doped perovskite as a function of doping ratio.

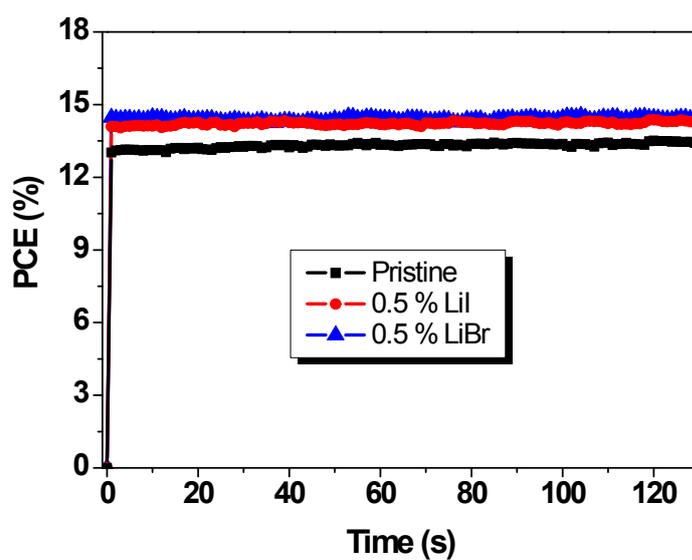


Figure S4. Steady-state PCE output of the devices at maximum power point of pristine and Li doped perovskite devices.