

Supporting Information

Nanoplasmonic Sensing of CH₃NH₃PbI₃ Perovskite Formation in Mimic of Solar Cell Photoelectrodes

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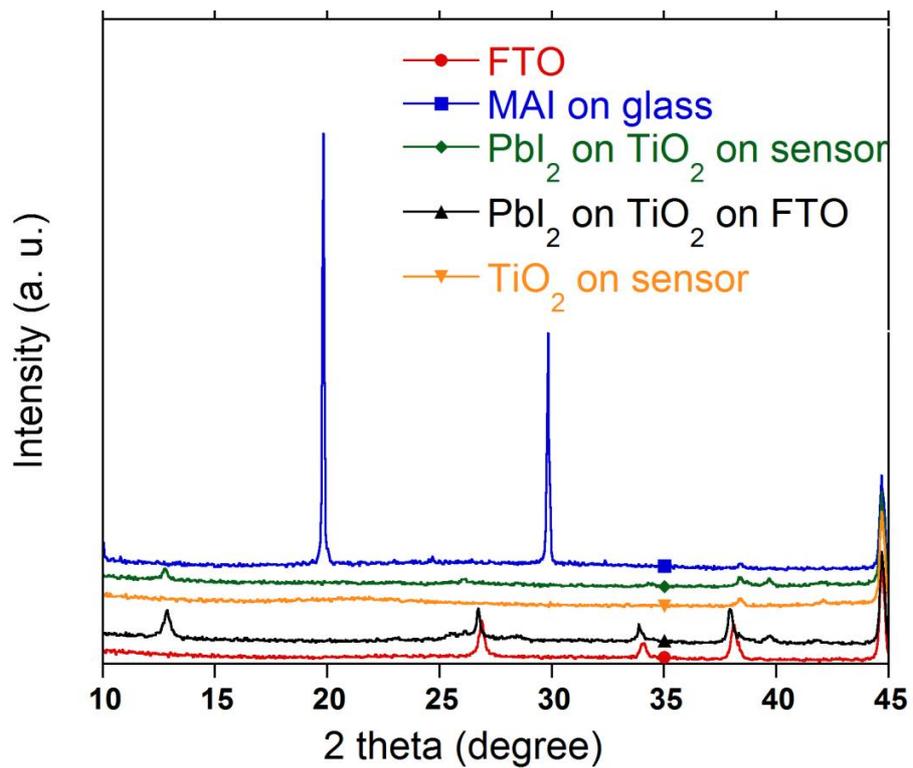


Figure S1. X-ray diffraction patterns of FTO glass, MAI on glass, PbI_2 on TiO_2 coated sensor, PbI_2 on TiO_2 on FTO and TiO_2 on sensor substrate. Control samples showed peaks of tetragonal MAI at $2\theta = 19.74^\circ$ and 29.79° along with a hexagonal PbI_2 at $2\theta = 12.8^\circ$.

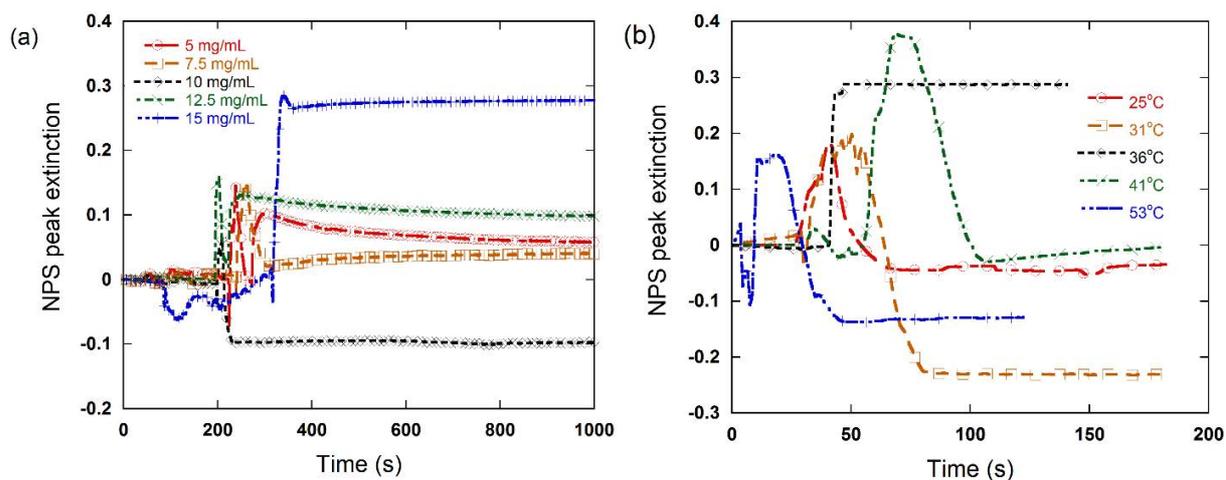


Figure S2. (a) Characteristic curves measured for Au sensors/compact TiO₂/350 nm mesoporous TiO₂/PbI₂ prepared by step spin coating program showing the nanoplasmonic peak extinction shifts for MAI concentrations ranging from 5 to 15 mg/mL at 41 °C. (b) Characteristic curves measured for Au sensors/compact TiO₂/350 nm mesoporous TiO₂/PbI₂ showing the nanoplasmonic peak extinction shifts for temperature ranging from 25 to 53 °C at MAI concentration of 12.5 mg/mL.

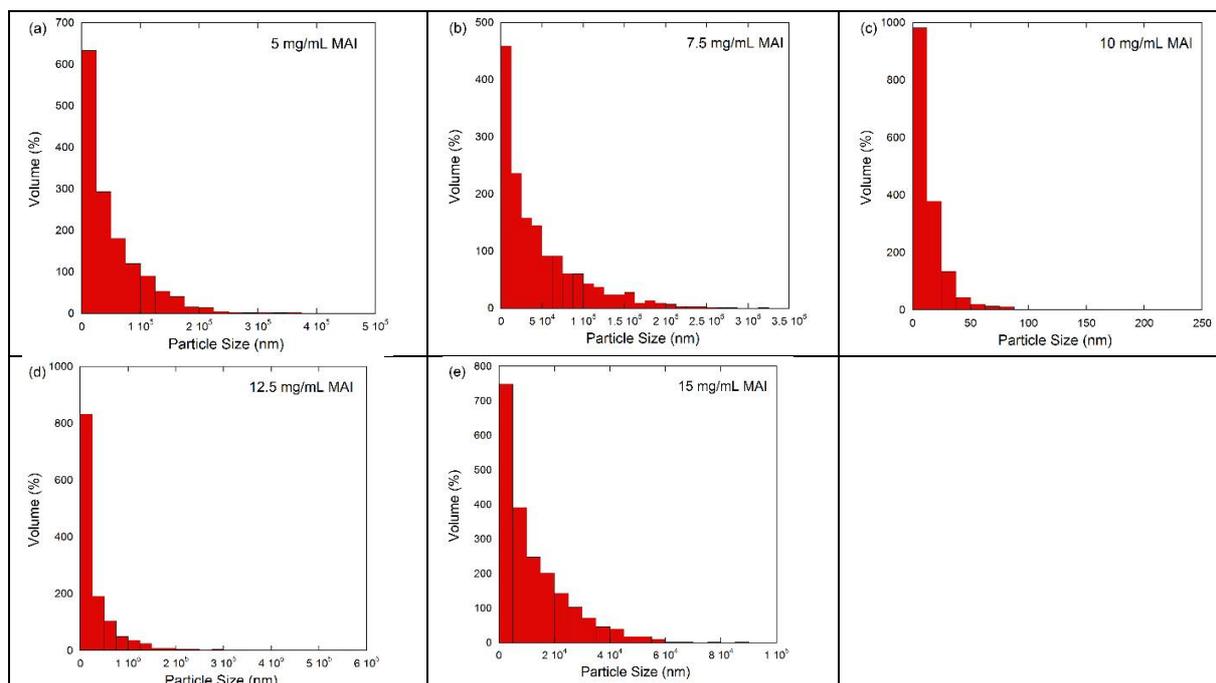


Figure S3. Particle size distribution of perovskites at different MAI concentrations; 5, 7.5, 10, 12.5 and 15 mg/ml, were obtained from image analysis of their corresponding SEM images. As revealed, particle size distribution is least in (c) which has growth of cubic perovskites (12.5 > 5 > 7.5 > 15 > 10 mg/ml)