

## Supporting information

### Proton irradiation on MAPbI<sub>3</sub> films for space applications: a comprehensive Micro-Raman spectroscopy study.

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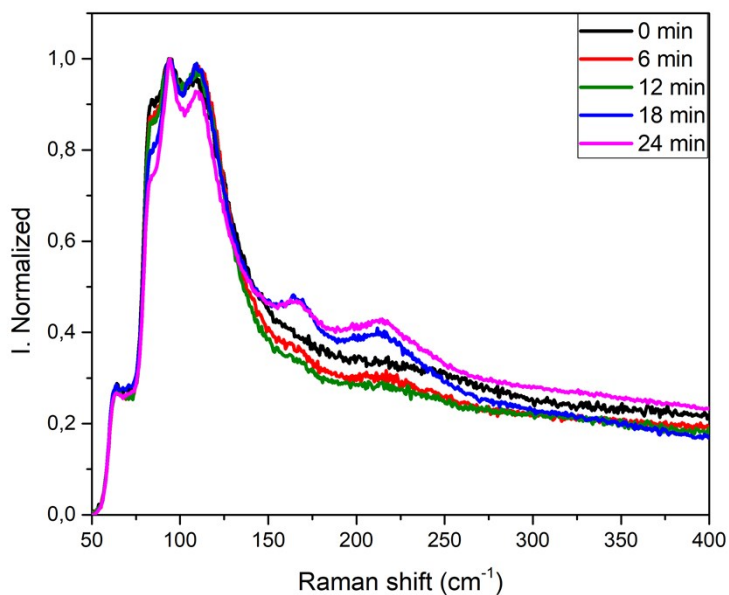


Figure 1 Raman spectra showing degradation in the same position of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub> layer after prolonged exposition with laser power density 250 W/cm<sup>2</sup> in ambient conditions.

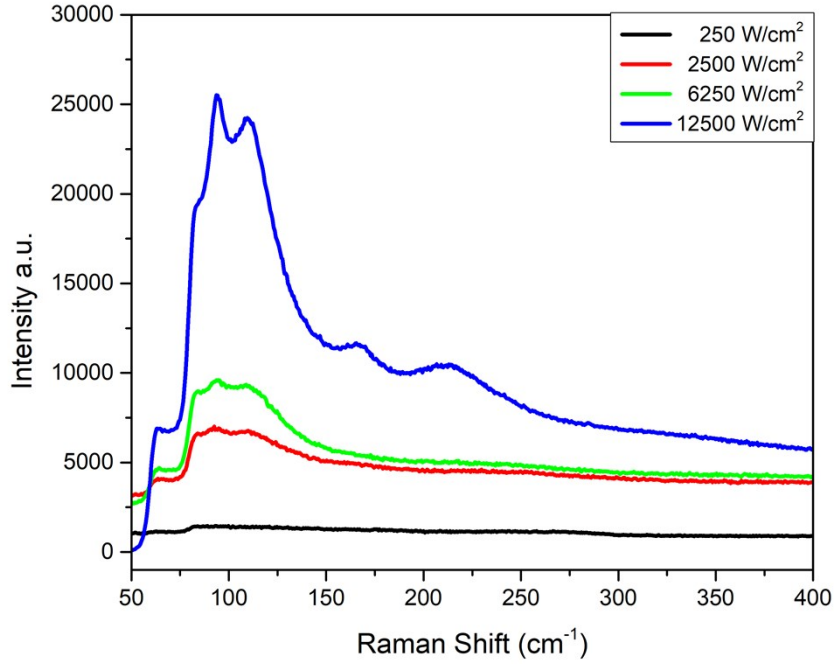


Figure 2 Raman spectra for degradation in  $\text{CH}_3\text{NH}_3\text{PbI}_3$  sample for different laser power density.

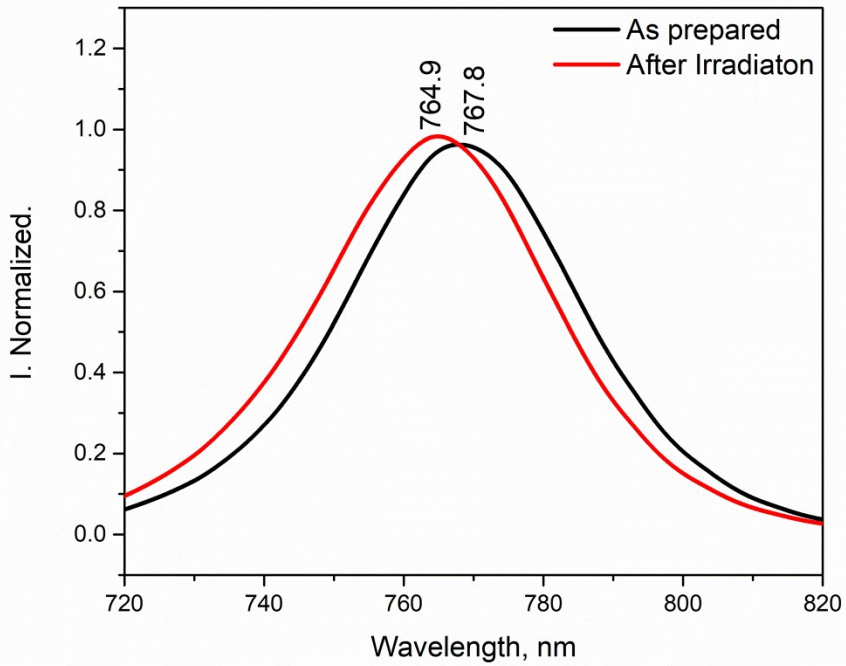


Figure 3. PL spectra from the  $\text{MAPbI}_3$  thin films as prepared and after irradiation.