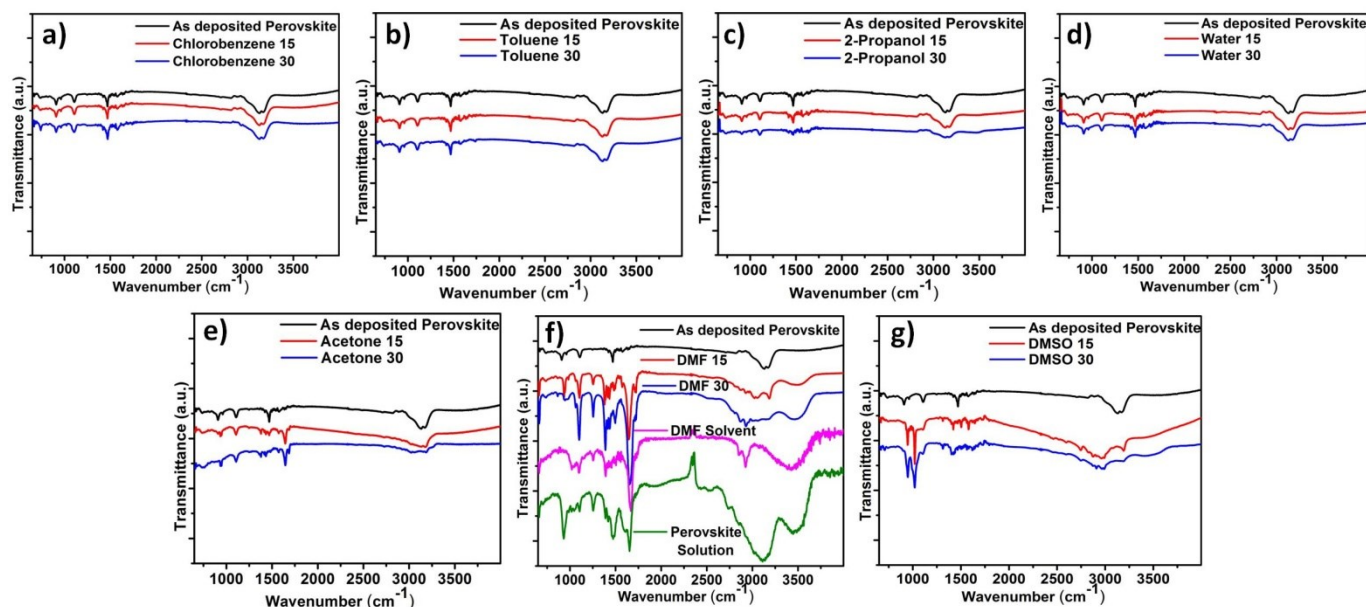




When  $\text{CH}_3\text{NH}_3\text{PbI}_3$  films are exposed for 15 minutes the effect of polar aprotic solvent vapours is quite similar to those of when exposed for 30 minutes shown in manuscript. The effect of polar protic solvent vapours shown here is less than that of when exposed for 30 minutes. Nearly no changes were observed after exposing to nonpolar solvents for 15 minutes.

**Fig. S2:** Fourier Transformed Infra-Red spectra of as deposited  $\text{CH}_3\text{NH}_3\text{PbI}_3$  and after exposing to vapours of a) Chlorobenzene, b) Toluene, c) 2-propanol, d) water, e) Acetone, f) DMF (includes spectrum of DMF and  $\text{MAI}+\text{PbCl}_2$  in DMF), and g) DMSO solvents for 15 and 30 minutes.



**Fig. S3:** Raman spectra of as deposited  $\text{CH}_3\text{NH}_3\text{PbI}_3$  and after exposing to vapours of a) Chlorobenzene, b) Toluene, c) 2-propanol, d) water, e) Acetone, f) DMF and g) DMSO solvents for 30 minutes.

