Supplementary Information

Air-stable mixed cation lead halide perovskite films and microscopic study of their degradation process

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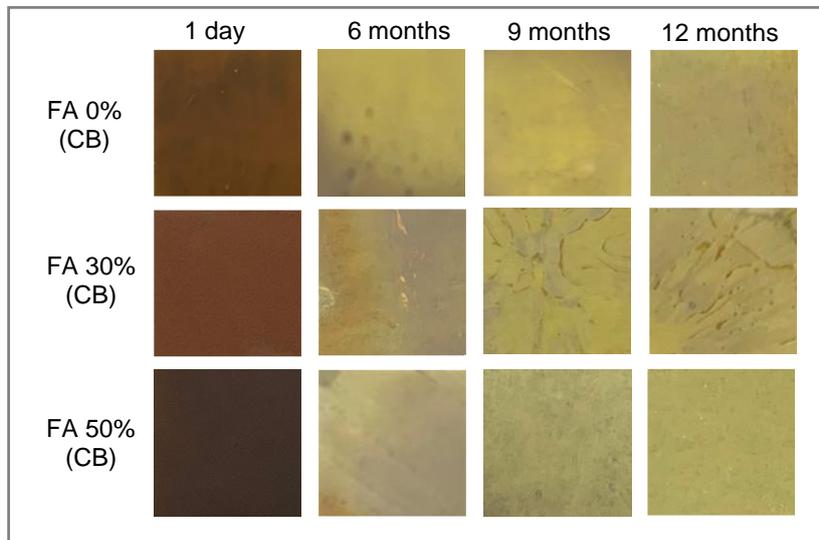
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Figure S1. Photographs of perovskite films of prepared using chlorobenzene antisolvent on 24 x 24 mm microscope cover glass at different stages of aging from 1 day to 12 months. The perovskite compositions are indicated in the figure.
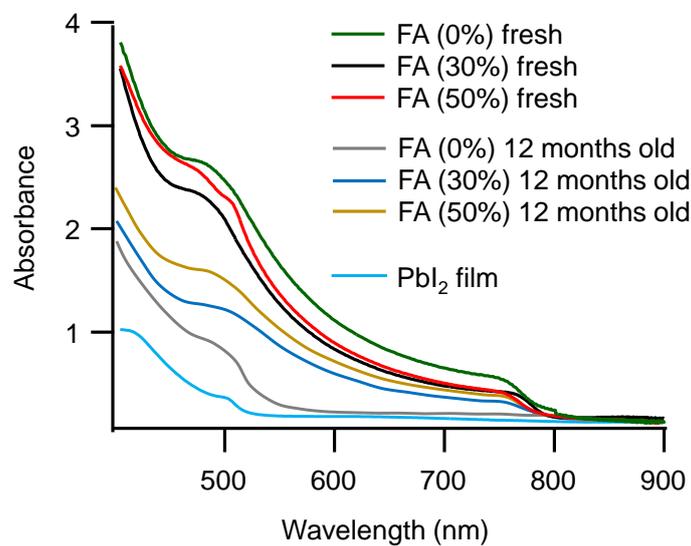
Figure S2. Absorption spectra of freshly prepared films (full lines) and films after 12 months degradation (dashed lines) for different compositions as indicated in the legend. The blue line represents the spectrum of a PbI₂ film.
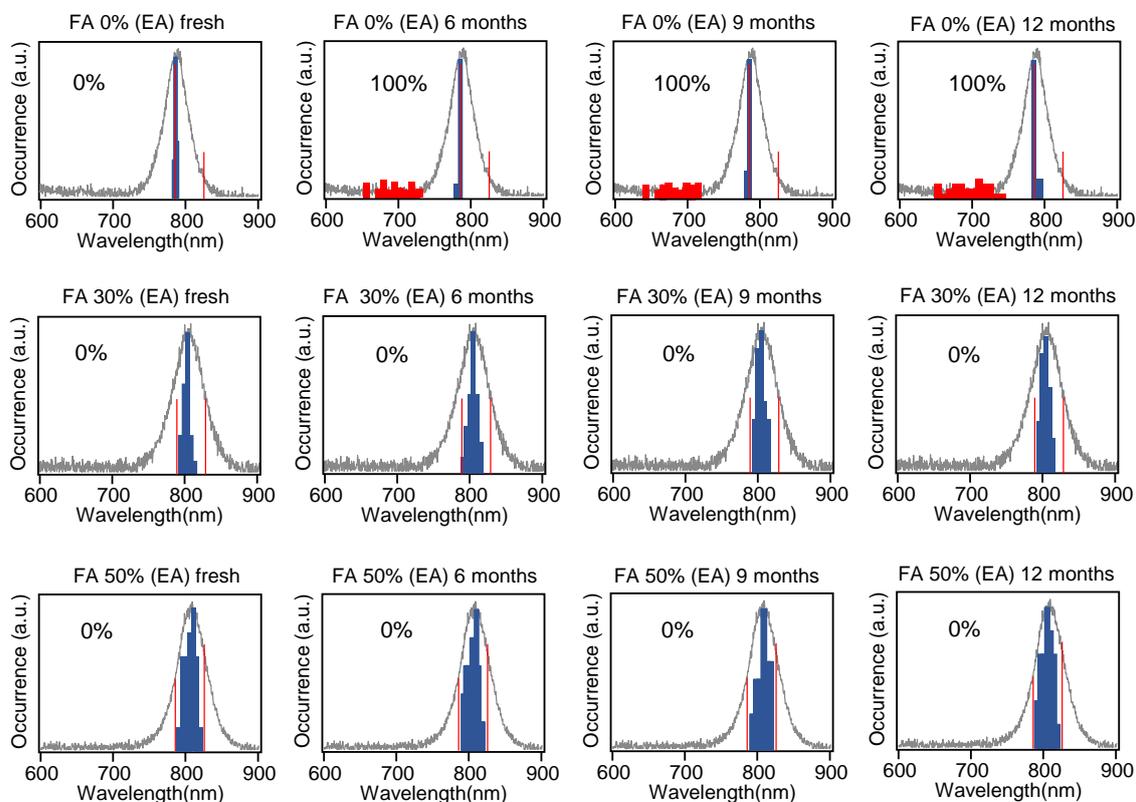
Figure S3. Histograms of local PL spectral maxima (blue and red bars) measured in central locations in the respective films at different stages of aging, as indicated in the figure. The red lines indicate the positions of the distribution peaks for FA 0% and FA 100% samples. Bulk PL spectra of freshly prepared films of the respective composition are shown by solid grey lines. The percentage numbers indicate the fractions of the degradation product spectra with respect to the spectra of the perovskites.
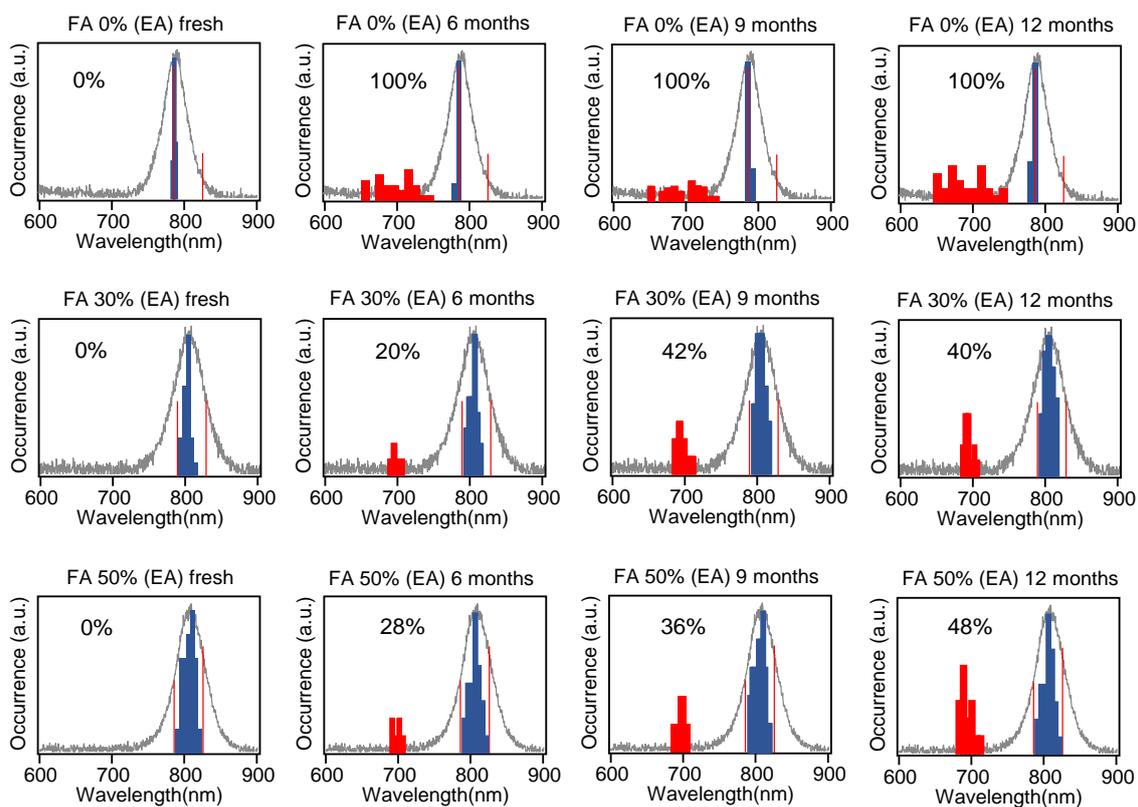
Figure S4. Histograms of local PL spectral maxima (blue and red bars) measured in locations close to the edges of the respective films at different stages of aging, as indicated in the figure. The red lines indicate the positions of the distribution peaks for FA 0% and FA 100% samples. Bulk PL spectra of freshly prepared films of the respective composition are shown by solid grey lines. The percentage numbers indicate the fractions of the degradation product spectra with respect to the spectra of the perovskites.