technologies

Supporting Information

Enhanced the Air Stability of Perovskite Quantum Dots by Manganese Passivation

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Table S1. The optical properties of pure $MAPbBr_3$ or Mn/$MAPbBr_3$ QD dispersion.

Sample	λ_{PL} /nm	FWHM /nm	PLQY /%
Mn 0%	520	25.0	84.3
Mn 1%	526	22.5	67.2
Mn 2%	525	22.5	69.7
Mn 3%	522	24,3	62.0
Mn 4%	492	49.2	53.1

Table S2. The film state of pure $MAPbBr_3$ or Mn/$MAPbBr_3$ QDs every changing over time.

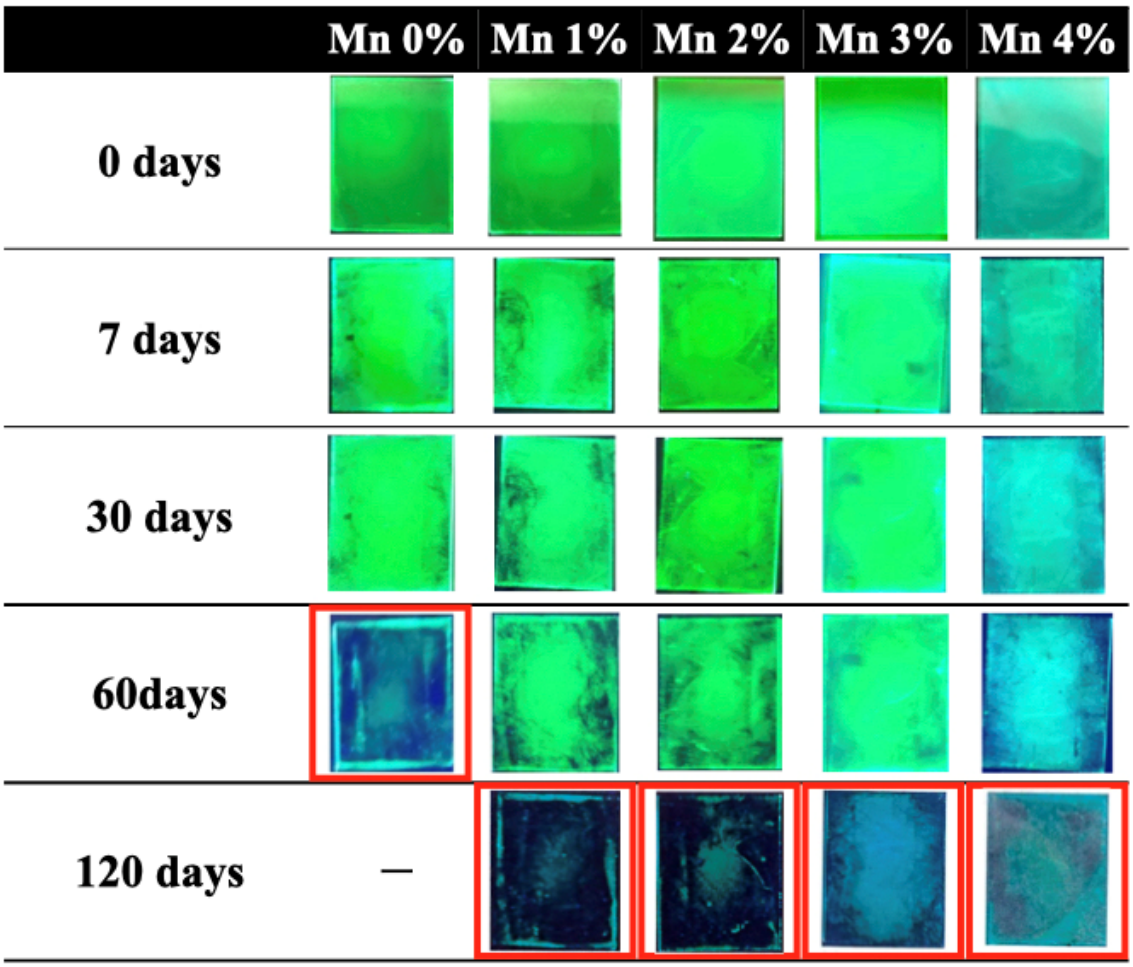
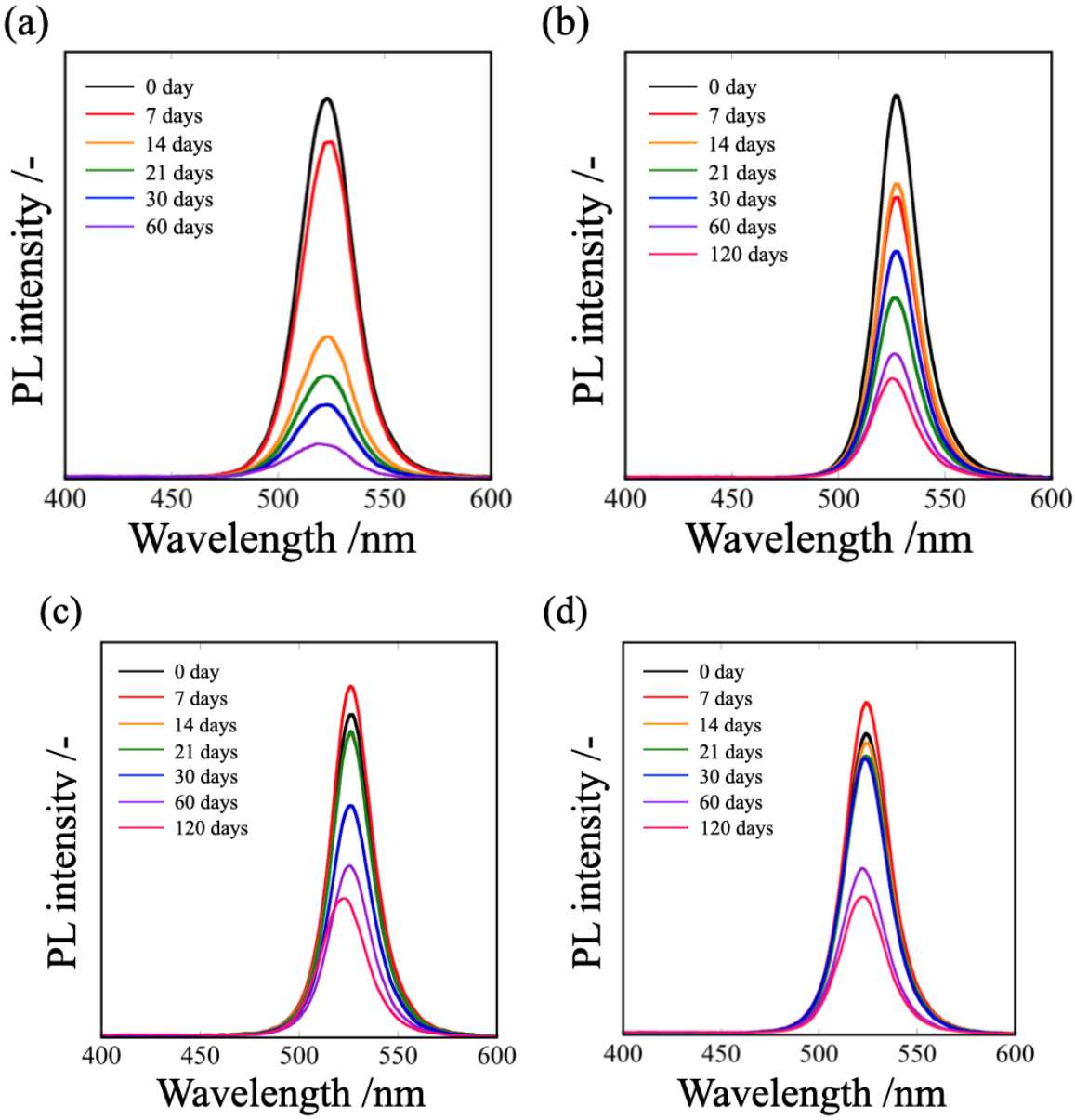


Table S3. The optical properties of $MAPbBr_3$ or Mn/$MAPbBr_3$ QD film.

Sample	Mn 0%	Mn 1%	Mn 2%	Mn 3%	Mn 4%
0 day	59.7	56.2	89.2	66.2	51.5
7 days	51.5	41.1	90.4	72.7	44.5
14 days	21.8	43.2	83.7	64.2	33.4
21 days	16.9	26.6	83.9	61.3	32.0
30 days	11.3	33.1	64.0	60.6	25.8
60 days	5.22	18.4	47.4	34.8	26.0
120 days	-	14.5	36.5	29.9	17.3


(a)
0 day
7 days
14 days
21 days
30 days
60 days
PL intensity /-
400
450
500
550
600
Wavelength /nm
(b)
0 day
7 days
14 days
21 days
30 days
60 days
120 days
PL intensity /-
400
450
500
550
600
Wavelength /nm
(c)
0 day
7 days
14 days
21 days
30 days
60 days
120 days
PL intensity /-
400
450
500
550
600
Wavelength /nm
(d)
0 day
7 days
14 days
21 days
30 days
60 days
120 days
PL intensity /-
400
450
500
550
600
Wavelength /nm

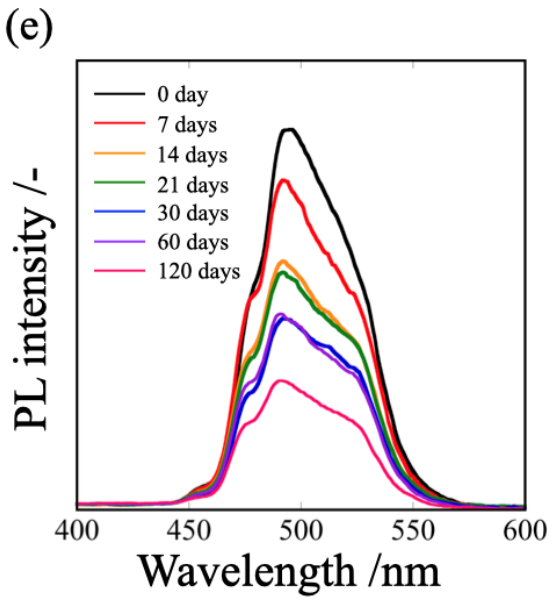


Figure S1. PL spectra of (**a**) pure $MAPbBr_3$, (**b**) 1% Mn/$MAPbBr_3$, (**c**) 2% Mn/$MAPbBr_3$, (**d**) 3% Mn/$MAPbBr_3$, and (**e**) 4% Mn/$MAPbBr_3$ QD film every changing over time from 0day to 4 months (120 days).