Table S1. ICP tests the molar content of Cd and Sb elements in $(C_7H_9N)_2CdBr_6$:xSb

Feed ratio (%)	ICP-OES measured value (mg/L)		The actual molar ratio (%)
Sb/ (Cd + Sb)	Cd	Sb	Sb/ (Cd + Sb)
1	89	0.242	0.0027
2	89.76	0.3874	0.0043
3	88.58	0.5177	0.0058
4	89.03	0.641	0.0072
5	88.275	0.7485	0.0084
6	89.34	1.815	0.01

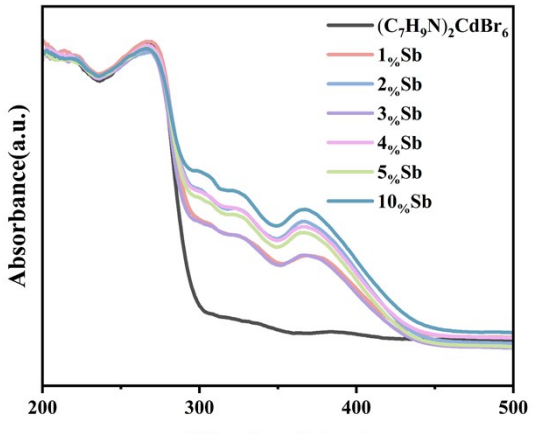

Figure S1 Absorption spectra of $(C_7H_9N)_2CdBr_6$:xSb (x = 0.01,0.02,0.03,0.04,0.05and 0.1) and $(C_7H_9N)_2CdBr_6$ host.

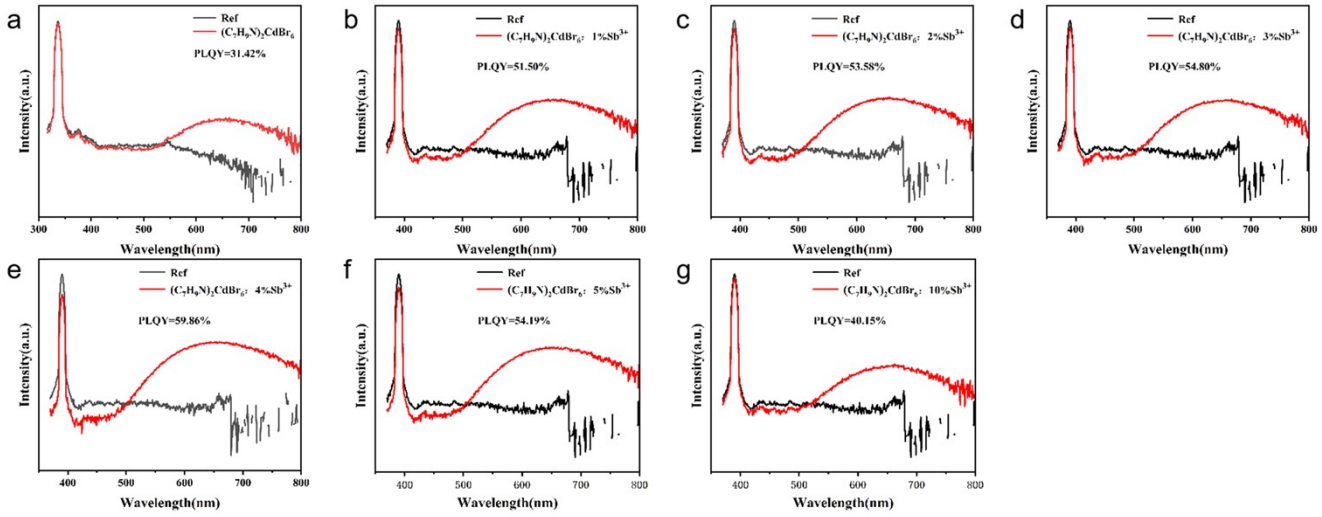

Figure S2 a-g) The PLQY of Sb^{3+} doped $(C_7H_9N)_2CdBr_6$ compounds was 0% , 1% ,2% ,3%,4%,5%and10% respectively.

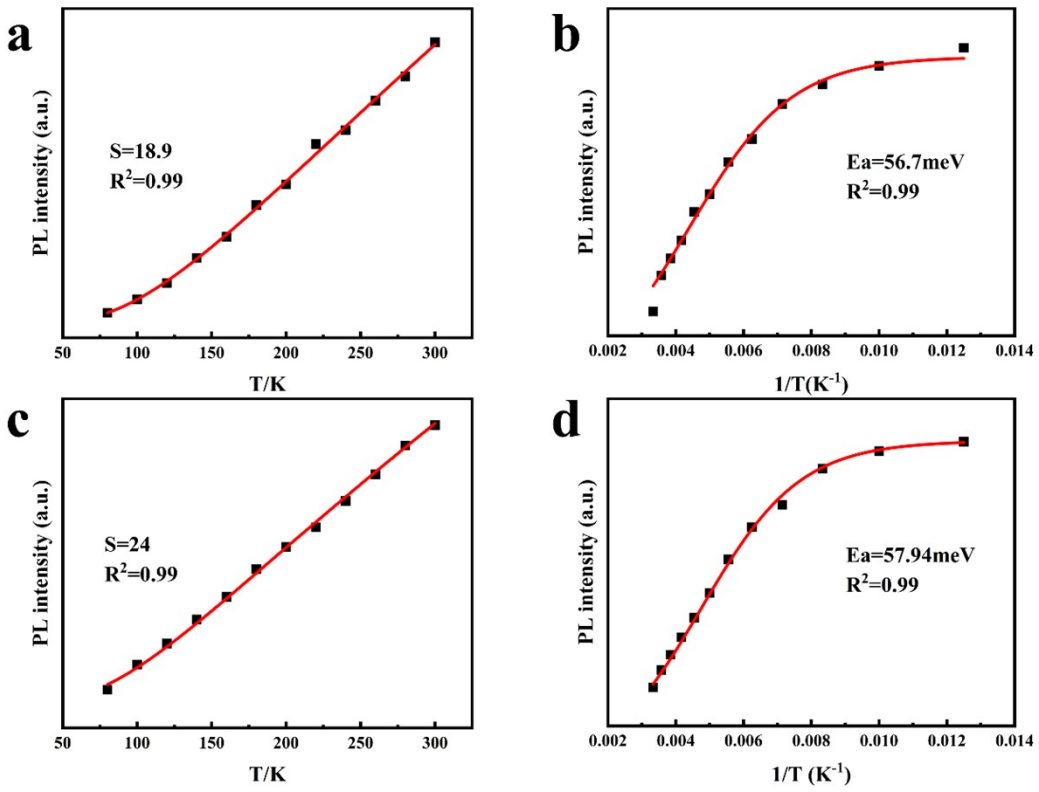

Figure S3 Temperature-dependent FWHM fitted plots of a)$(C_7H_9N)_2CdBr_6$ and c) $(C_7H_9N)_2CdBr_6$:4%Sb.Temperature-dependent PL intensity fitted plots of b) $(C_7H_9N)_2CdBr_6$ and c)$(C_7H_9N)_2CdBr_6$:4%Sb.

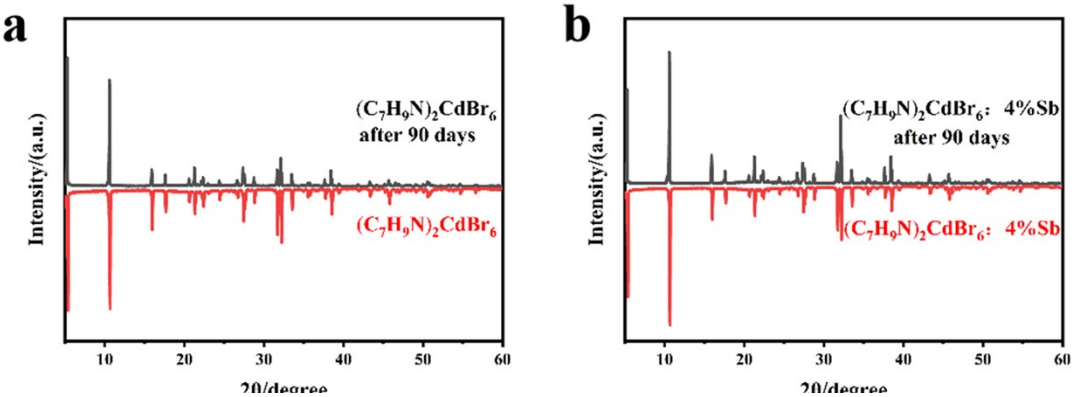

Figure S4 The PXRD of the fresh sample and the sample stored in the air at RT for 90 days of a) $(C_7H_9N)_2CdBr_6$ and b) $(C_7H_9N)_2CdBr_6$:4%Sb.

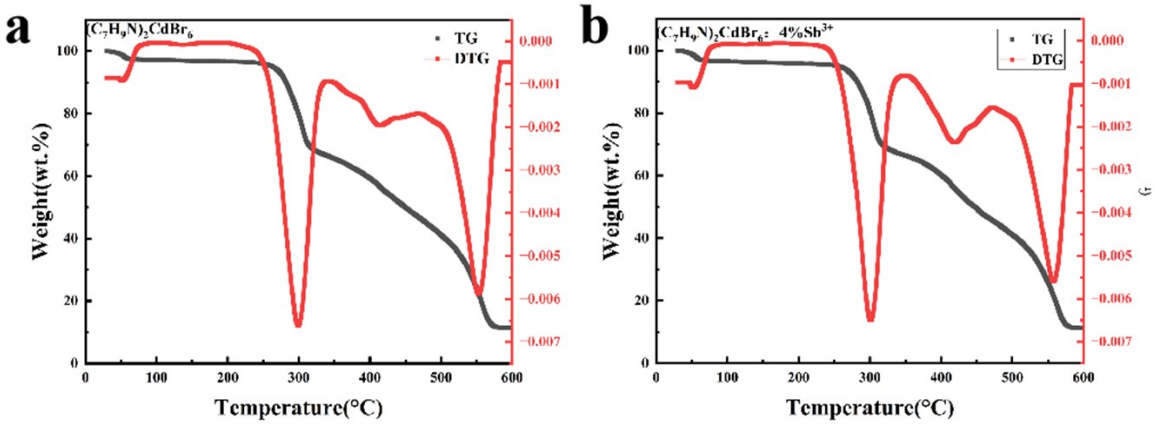

Figure S5 TGA spectra of a) $(C_7H_9N)_2CdBr_6$ and b) $(C_7H_9N)_2CdBr_6$:4%Sb.

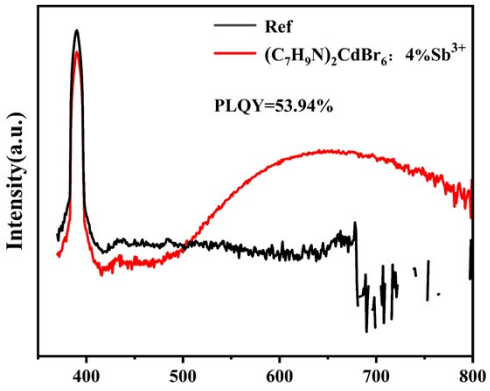

Figure S6 The PLQY of $(C_7H_9N)_2CdBr_6$:4%Sb in the air at RT for 90 days.