Electronic Supplementary Information

RSC Advances

Synthesis of $Y_2O_3:Bi^{3+},Yb^{3+}$ Nanosheets from Layered Yttrium Hydroxide Precursor and their Photoluminescence Properties

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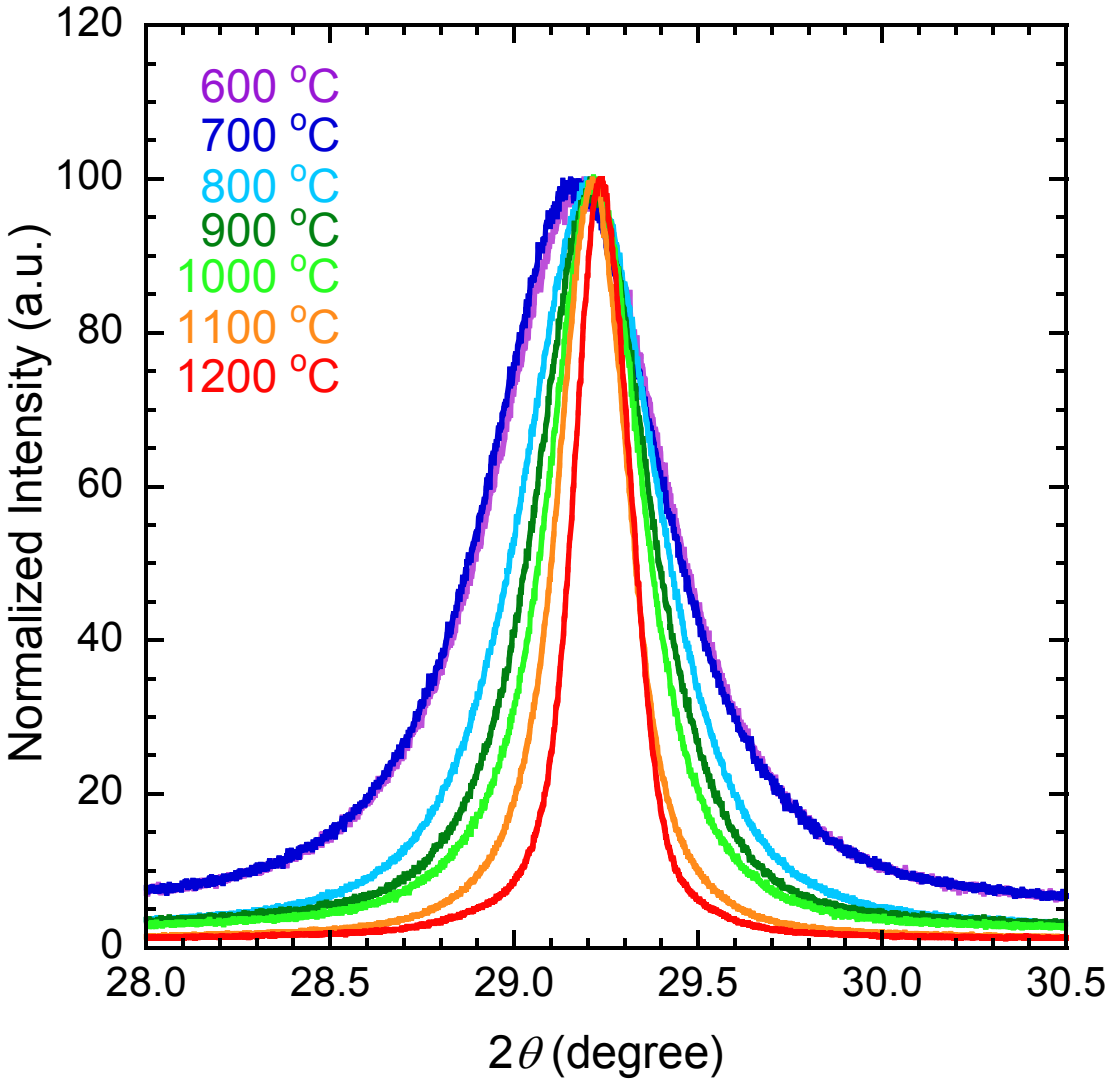

Fig. S1 High-precision (222) XRD peaks of Y_2O_3:Bi^{3+},Yb^{3+} nanosheets synthesized at each calcination temperature.

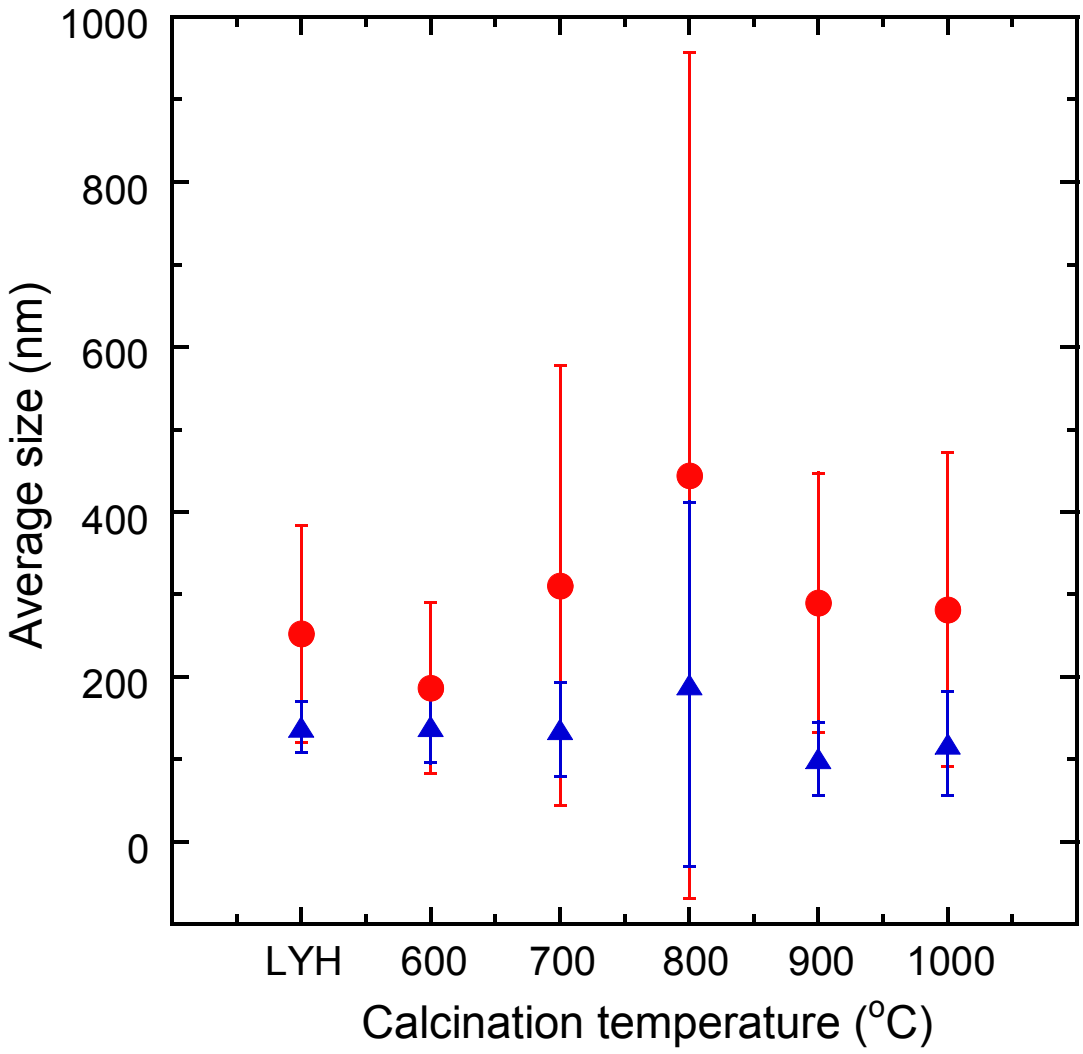

Fig. S2 Average lateral sizes, measured from TEM images, of LYH:Bi^{3+},Yb^{3+} precursor and Y_2O_3:Bi^{3+},Yb^{3+} nanosheets as a function of calcination temperature. Red circles: length; blue triangles: width.

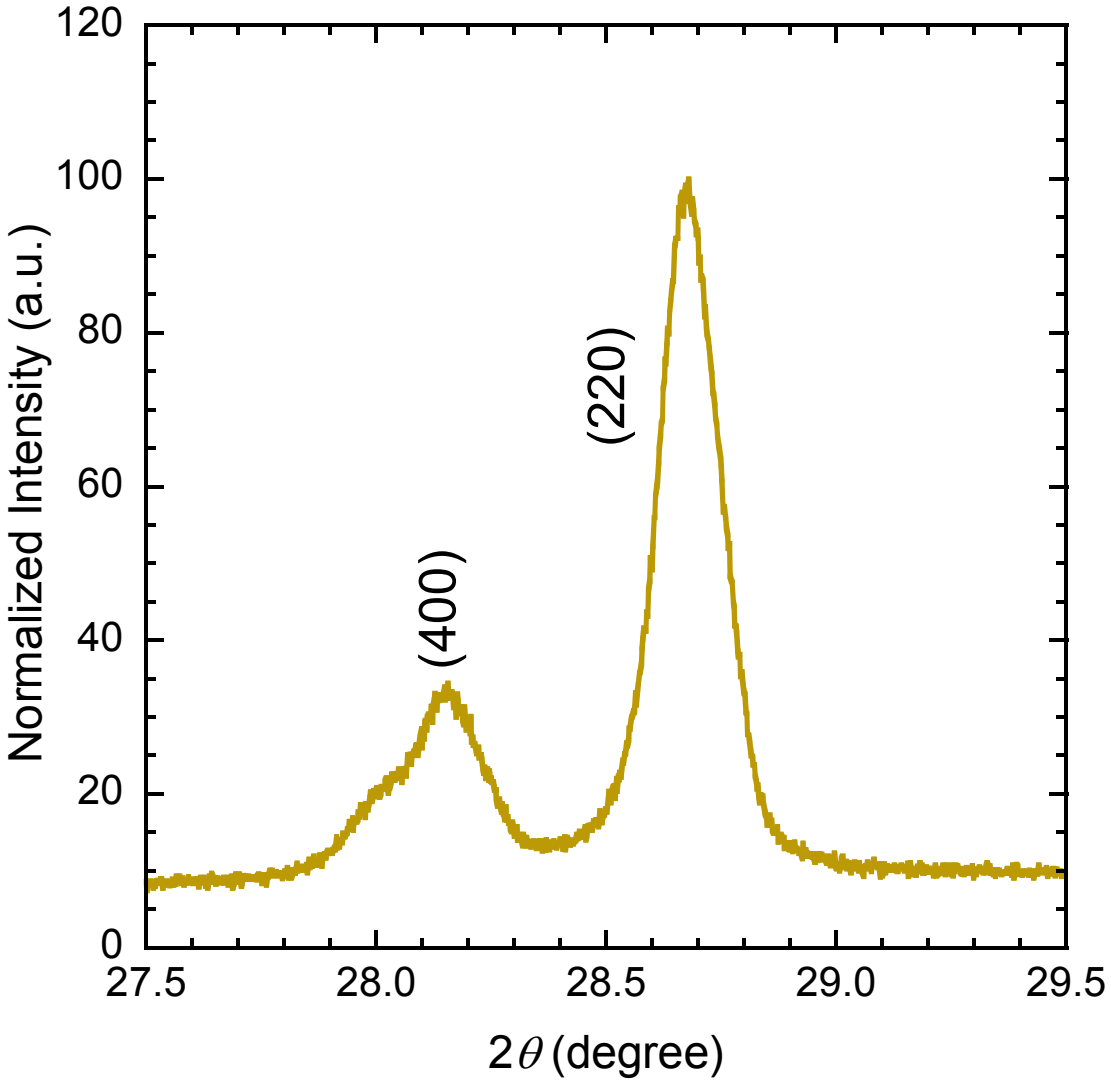

Fig. S3 High-precision (220) XRD peak of LYH:Bi^{3+},Yb^{3+} precursor nanosheet.

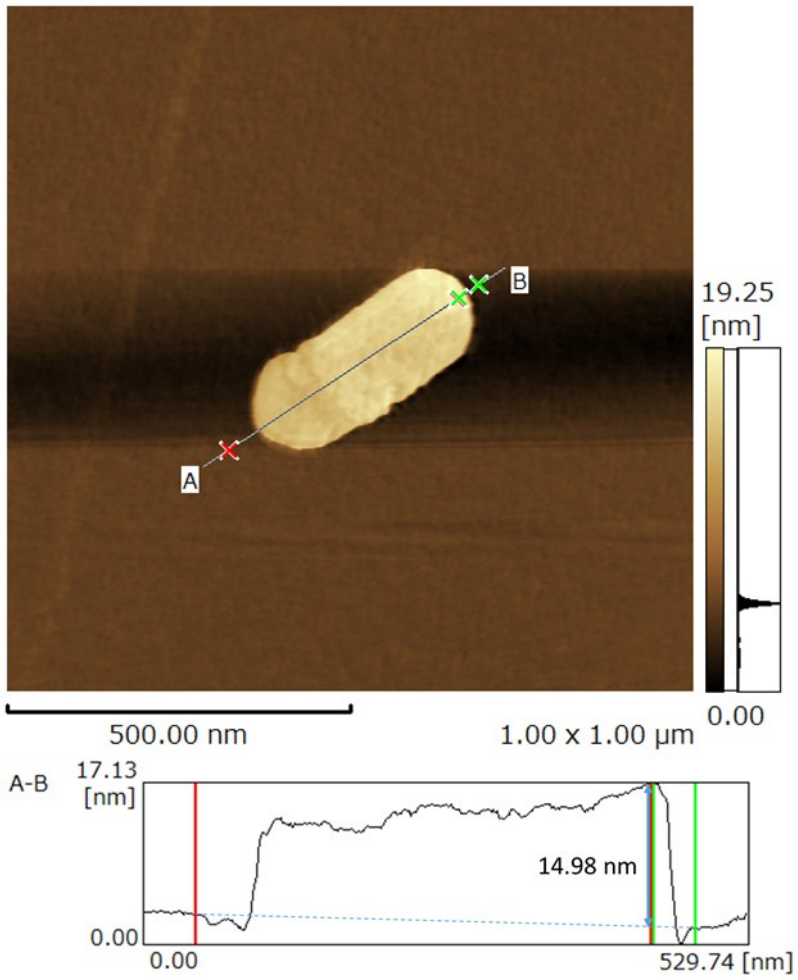

Fig. S4 AFM image of Y_2O_3:Bi^{3+},Yb^{3+} nanosheet synthesized at calcination temperature of 700 °C.

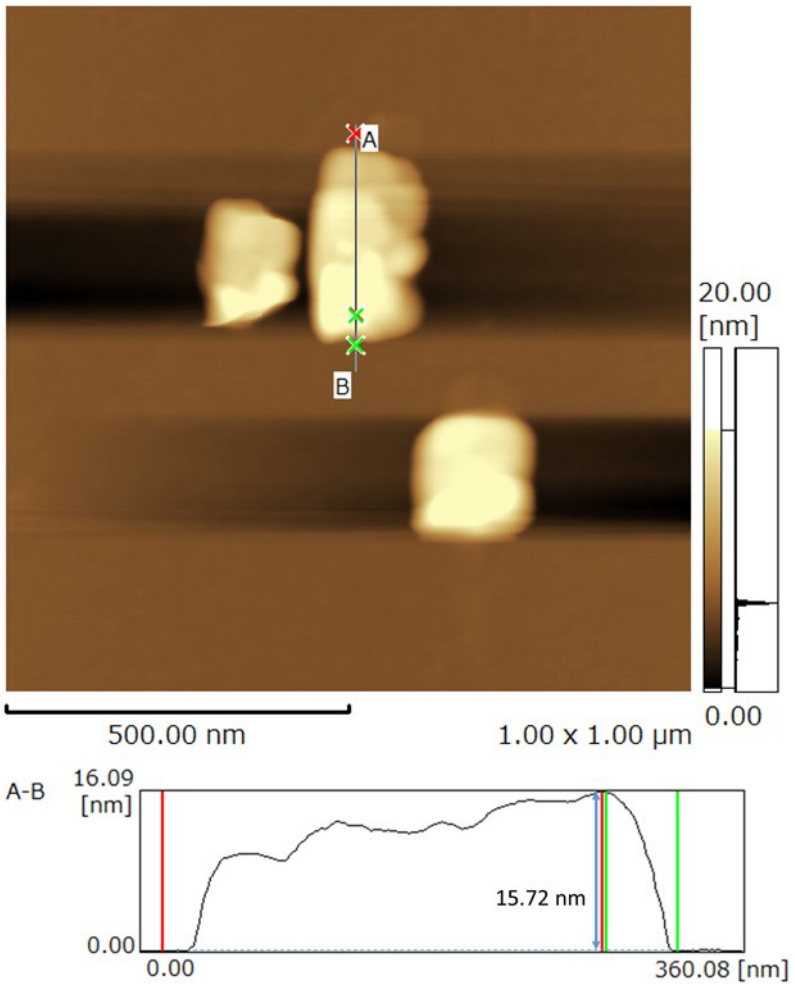

Fig. S5 AFM image of Y_2O_3:Bi^{3+},Yb^{3+} nanosheet synthesized at calcination temperature of 1000 °C.

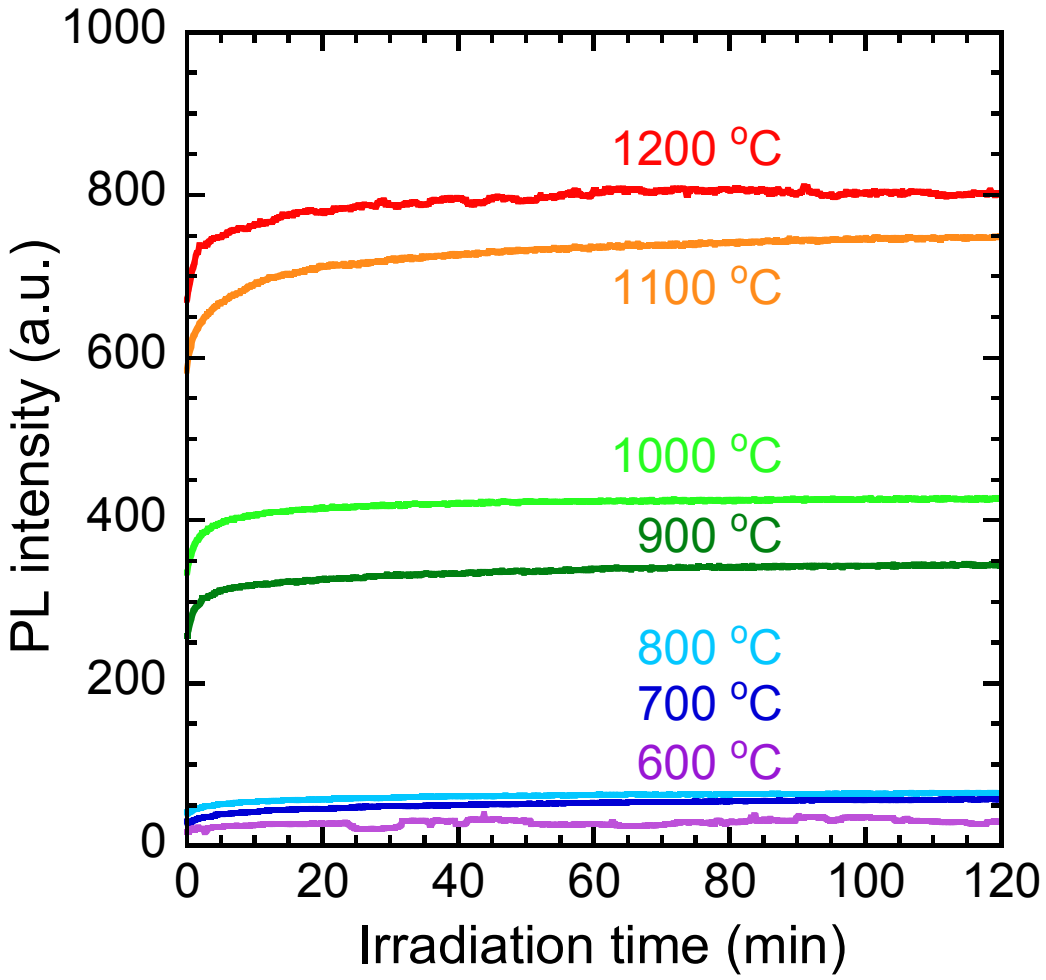

Fig. S6 Change in relative PL intensity with irradiation time for Y_2O_3:Bi^{3+},Yb^{3+} nanosheets synthesized at each calcination temperature. λ_{ex} = 332 nm, λ_{em} = 976 nm.