

Supplementary Information

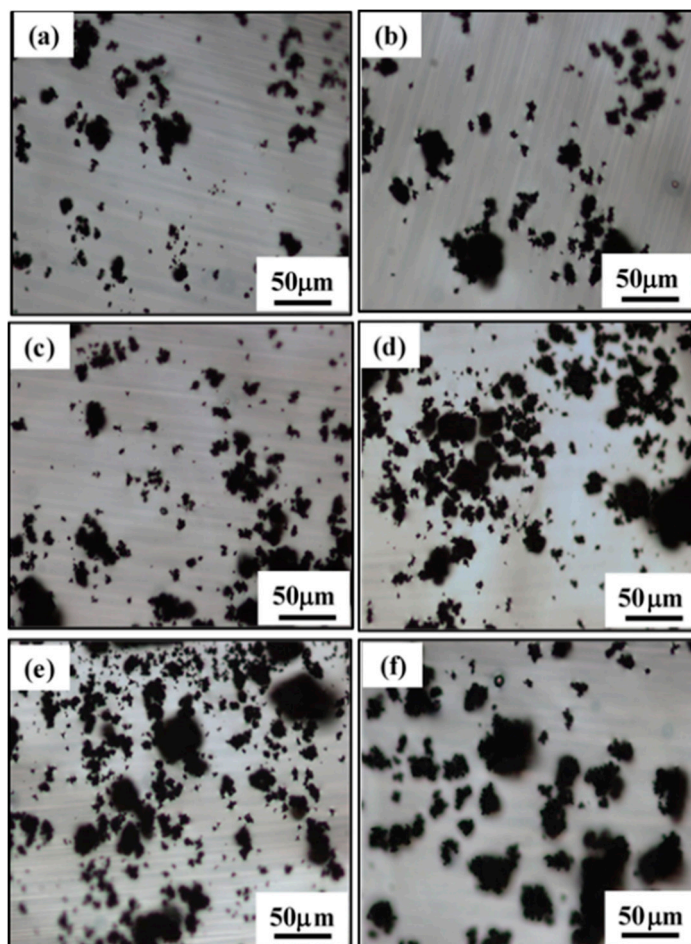


Figure S1. OM images of (a) as-received powder and the $\text{Y}_{3.92}\text{SiAlO}_8\text{N}:0.08\text{Tb}^{3+}$ powders calcined at the temperatures of (b) 1300, (c) 1400, (d) 1500, (e) 1600, and (f) 1650 °C.

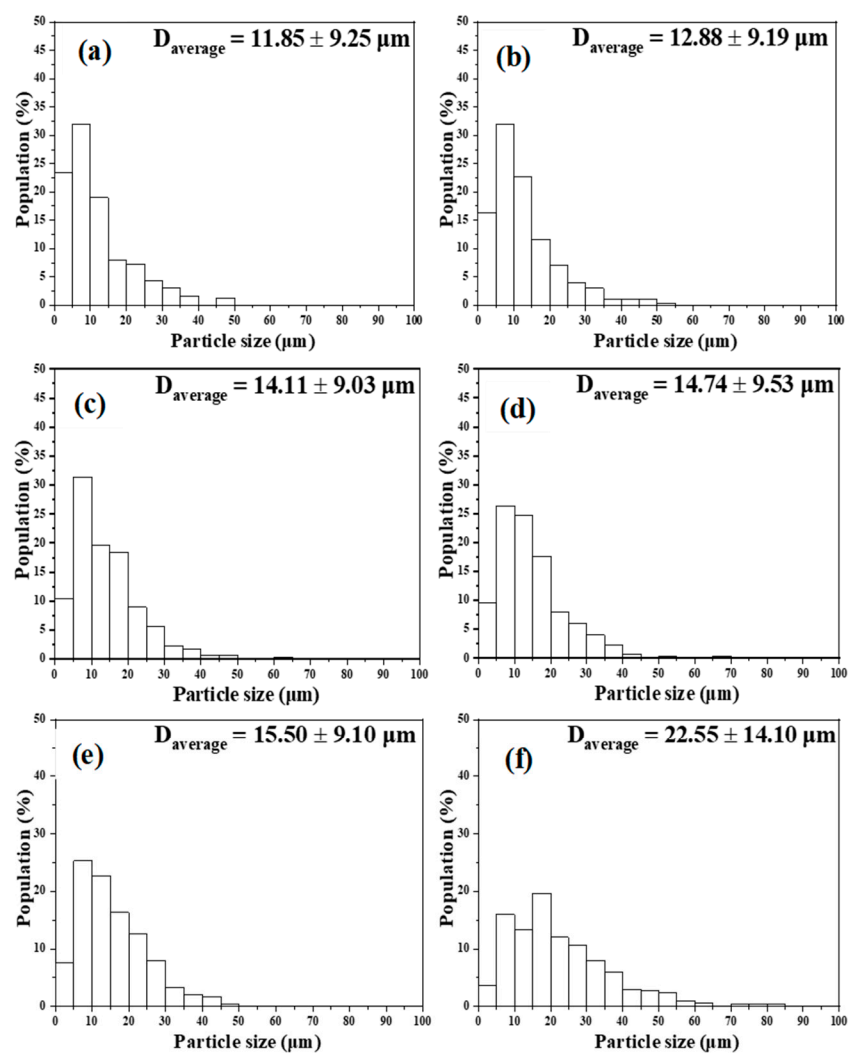


Figure S2. Particle size distributions of (a) as-received powder and the $\text{Y}_{3.92}\text{SiAlO}_8\text{N}:0.08\text{Tb}^{3+}$ powders calcined at the temperatures of (b)1300, (c) 1400, (d) 1500, (e) 1600, and (f) 1650 $^{\circ}\text{C}$.

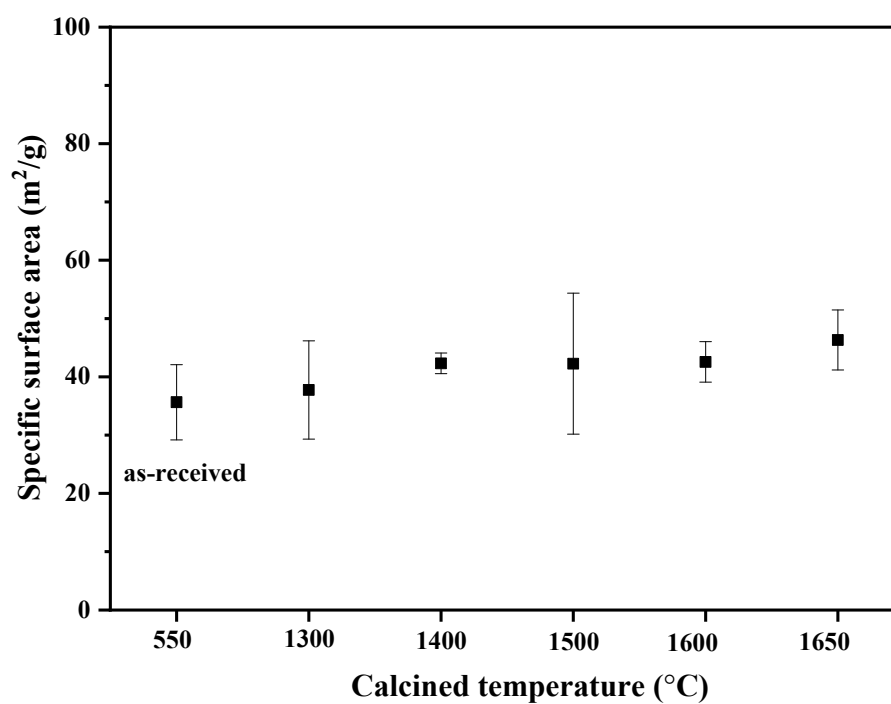


Figure S3. Correlation between specific surface area as a function of calcination temperature.

Table S1. The phase distribution of different temperature calcined $\text{Y}_{3.92}\text{SiAlO}_8\text{N}:0.08\text{Tb}^{3+}$ phosphor powders.

Phase Temperature	$\text{Y}_4\text{SiAlO}_8\text{N}$	Tb	Y_2SiO_7
1300 °C	✓	✓	
1400 °C	✓	✓	
1500 °C	✓	✓	
1600 °C	✓	✓	
1650 °C	✓	✓	✓