Supporting information

TableS1 Refifinement parameters of $CaScBO_4$:0.007Bi^{3+} acquired from the Rietveld refifinement using X-ray powder diffffraction data at room temperature

Sample	*x*=0.007	*x*=0.008	*x*=0.009	*x*=0.01	*x*=0.02
Unit cell (Å)					
a	10.22181	10.21711	10.21392	10.22621	10.24183
b	3.36331	3.36347	3.36353	3.36576	3.37033
c	9.40837	9.40888	9.40984	9.41662	9.43076
Cell volume $(Å)^3$	323.451	323.335	323.273	324.111	325.535
Space group			Pnma (No.62)		
Crystal system			orthorhombic		
R_{wp}(%)	7.821%	8.53%	8.094%	8.85%	7.787%
χ2	2.82	3.23	2.79	2.92	2.7

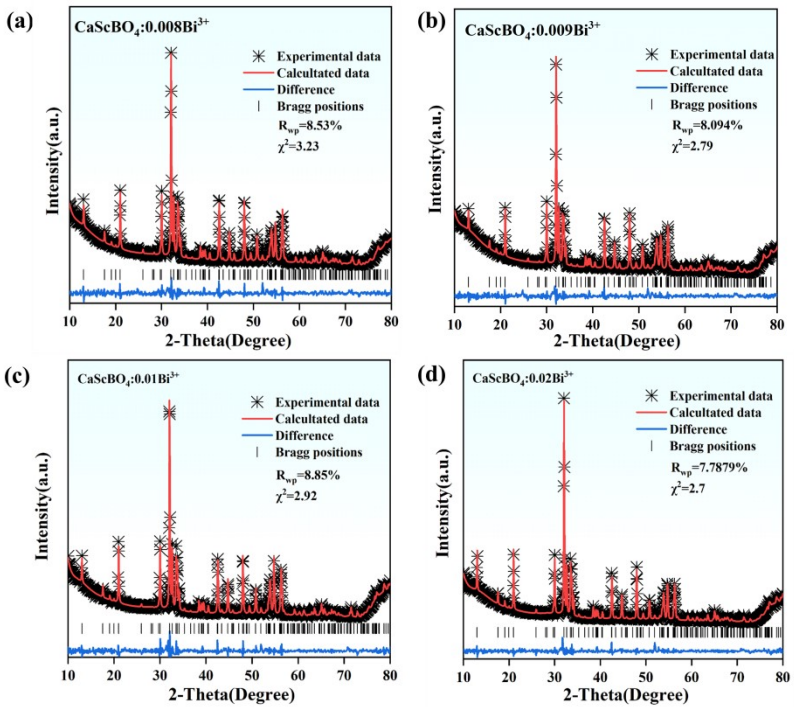

Figure S1 (a-d) Refinement diagram of CSBO:*x*Bi^{3+}(0.008-0.02)

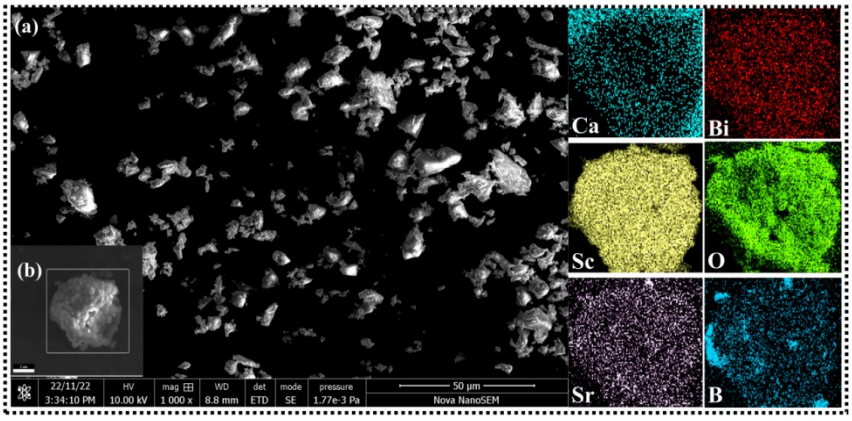

Figure S2(a) SEM image; (b) Element mapping images of Ca, Sc, O ,B,Sr and Bi for the selected CSSBO:Bi^{3+} particle.

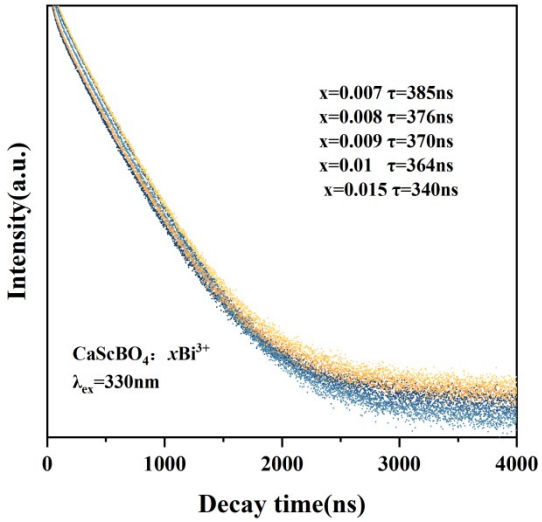

Figure S3 The PL decay curves of CSBO:xBi^{3+} (x=0.007-0.015) (λ_{ex} =330nm; λ_{em}=430 nm).

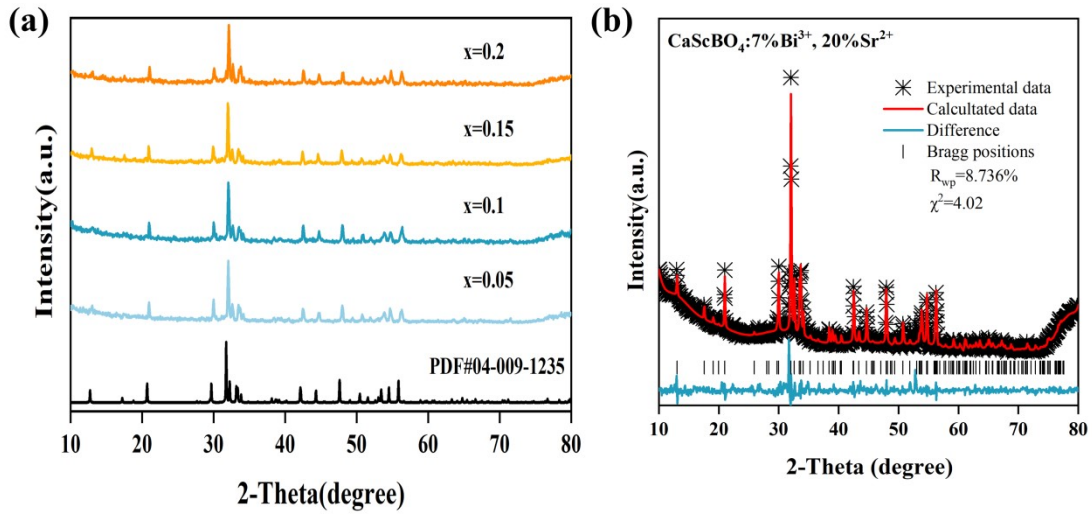

Figure S4 (a)XRD patterns of $Ca_{0.993-y}Sr_yScBO_4$:0.007Bi^{3+}(y=0.05-0.2);(b) Refinement diagram of $Ca_{0.793}Sr_{0.2}ScBO_4$:0.007Bi^{3+}