Figure S1 The emission spectra of $Ba_3Tb(BO_3)_3$ (λ_{ex} = 286 nm) and the excitation spectra (λ_{em} = 607 nm) of $Ba_3Tb_{0.99}(BO_3)_3$:0.01Sm^{3+} and $Ba_3Tb_{0.98}(BO_3)_3$:0.02Eu^{3+} (λ_{em} = 625 nm), respectively.
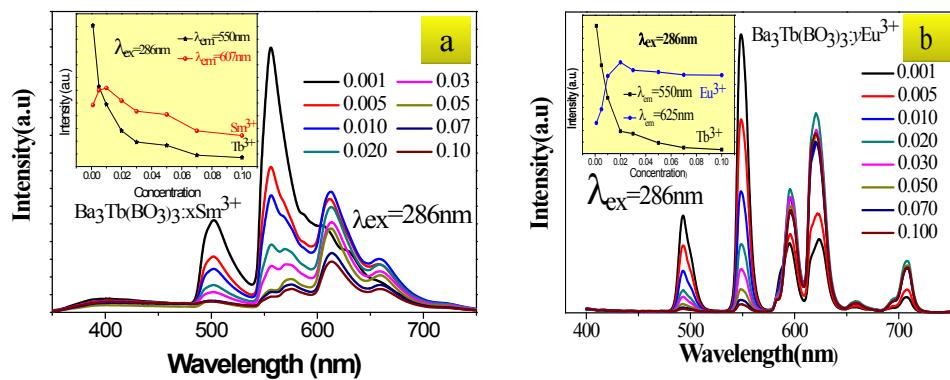
Figure S2 Emission spectra of Sm^{3+} (λ_{ex} = 286 nm) (a) and Eu^{3+} (λ_{ex} = 286 nm) (b).
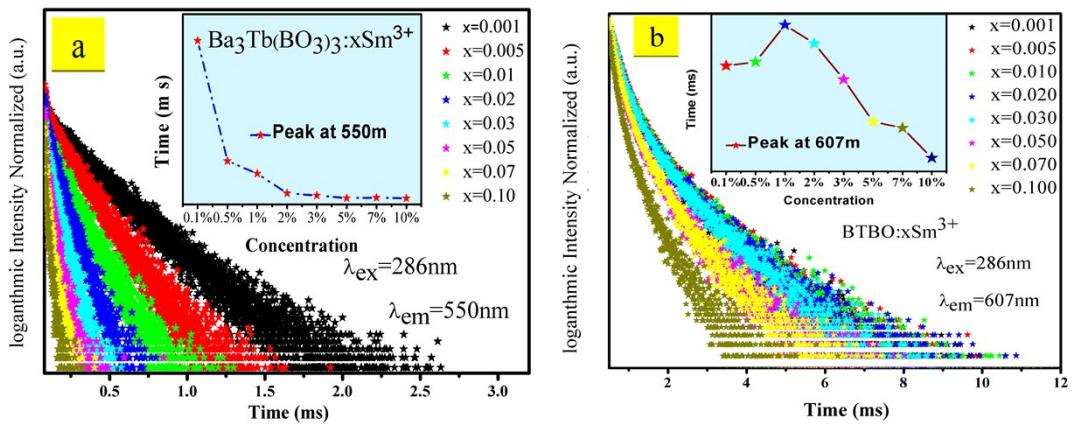
Figure S3   The luminescence lifetimes of Tb^{3+} (a) and Sm^{3+} (b) in $Ba_3Tb(BO_3)_3$: $x$$Sm^{3+}$.

Figure S4　The luminescence lifetimes of Tb^{3+} (a) and Eu^{3+} (b) in $Ba_3Tb(BO_3)_3$: $y$$Eu^{3+}$.
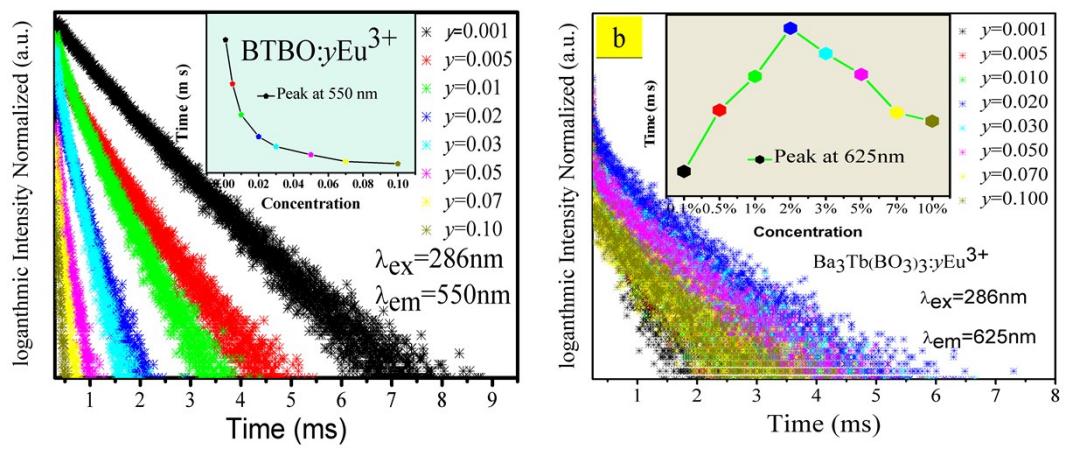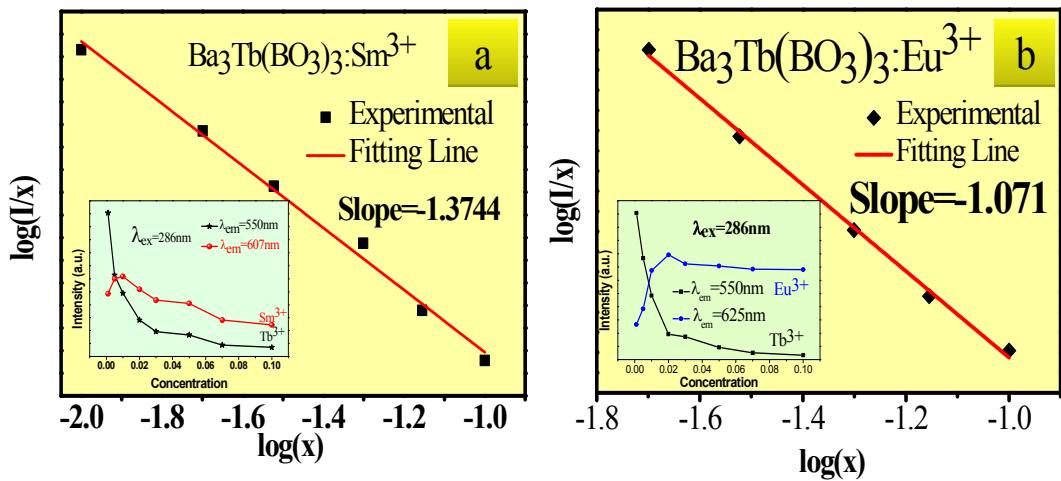
Figure S5 Plot of log (I/x) as function of log (x) in $Ba_3Tb(BO_3)_3$:$x$$Sm^{3+}$ and $Ba_3Tb (BO_3)_3$:$y$$Eu^{3+}$. The inset is the emission intensities as function of Sm^{3+} (Eu^{3+}) concentration (λ_{ex} =286 nm).