Electronic Supplementary Information

Controlled Synthesis of $Li_2B_4O_7$:Cu for Temperature Sensing

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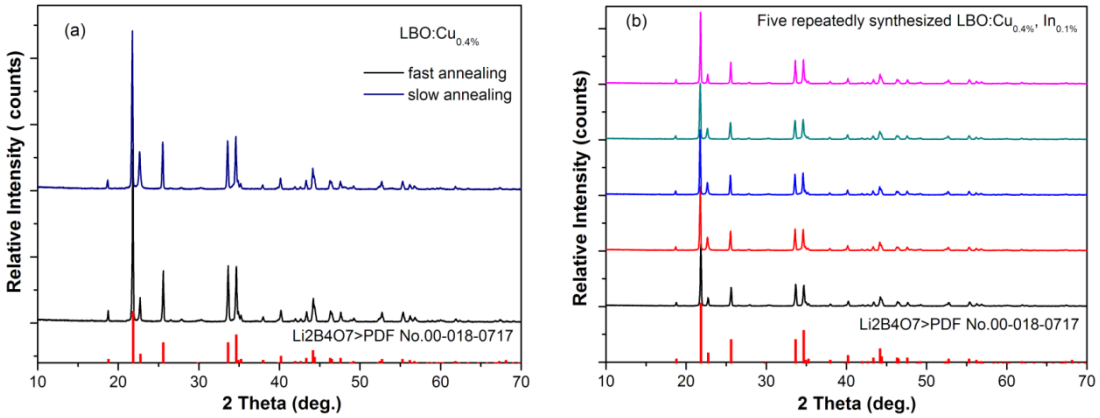
Fig. S1. XRD patterns of LBO:$Cu_{0.4\%}$ synthesized by slow annealing and fast annealing process (a);five repeatedly synthesized LBO:$Cu_{0.4\%}$,$In_{0.1\%}$ by fast annealing process (b); five repeatedly synthesized LBO:$Cu_{0.4\%}$,$Dy_{0.1\%}$ by fast annealing process (c); five repeatedly synthesized LBO:$Cu_{0.4\%}$,$Ti_{0.1\%}$(d) by fast annealing process; five repeatedly synthesized LBO:$Cu_{0.4\%}$, $Ag_{0.1\%}$ by fast annealing process (e); different concentrations of Ag copded LBO:$Cu_{0.4\%}$ by fast annealing process (f).

Fig. S1 is the XRD patterns of samples under investigation. Comparing with the reference XRD pattern of $Li_2B_4O_7$ (PDF No.00-018-0717), no second phase was observed, indicating the doped samples retain the same crystal structure as Li2B4O7.



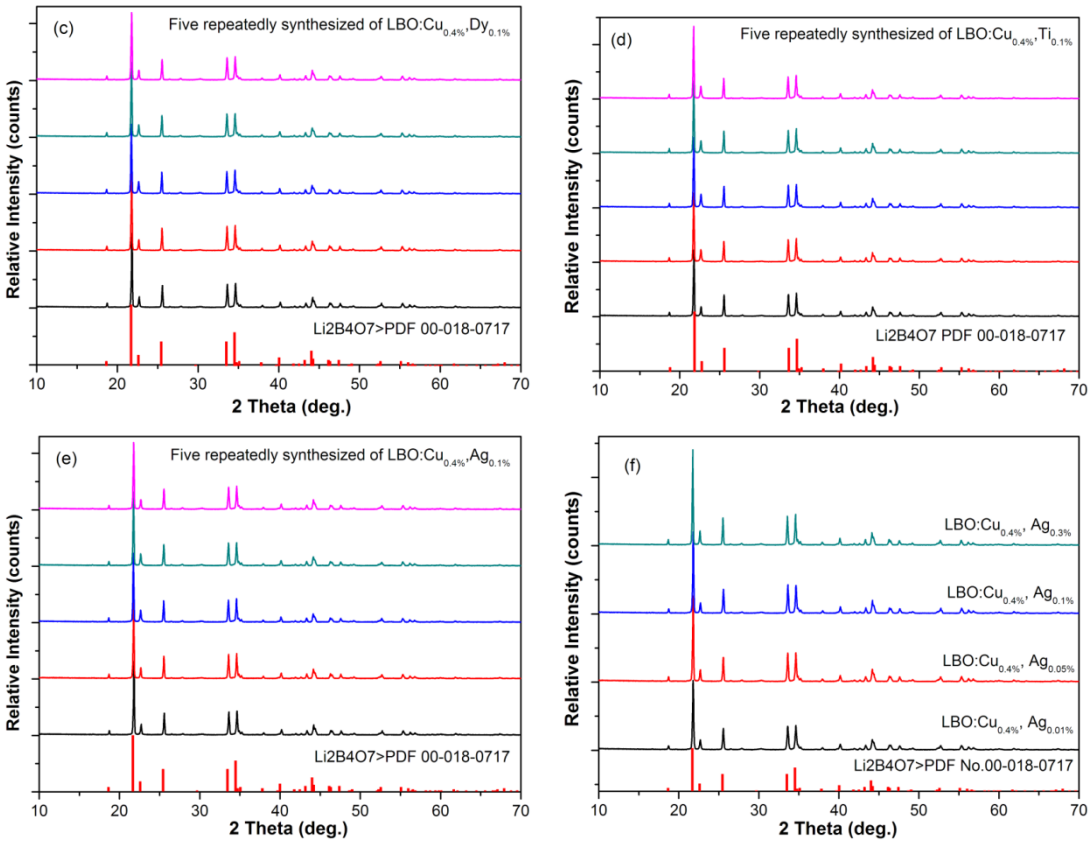


Fig. S1. XRD of LBO:$Cu_{0.4\%}$ synthesized by slow cooling and fast cooling (a);five repeatedly synthesized LBO:$Cu_{0.4\%}$,$In_{0.1\%}$ (b); five repeatedly synthesized LBO:$Cu_{0.4\%}$, $Dy_{0.1\%}$ (c); five repeatedly synthesized LBO:$Cu_{0.4\%}$,$Ti_{0.1\%}$ (d); five repeatedly synthesized LBO:$Cu_{0.4\%}$, $Ag_{0.1\%}$ (e); different concentrations of Ag codoped LBO:$Cu_{0.4\%}$ (f).