

Abstract

The invention relates to a yellow light afterglow material and a preparation method thereof as well as an LED illuminating device using the same. The yellow light afterglow material comprises the chemical formula of $aY_2O_3 \cdot bAl_2O_3 \cdot cSiO_2 : mCe \cdot nB \cdot xNa \cdot yP$, where a, b, c, m, n, x and y are coefficients, and a is not less than 1 but not more than 2, b is not less than 2 but not more than 3, c is not less than 0.001 but not more than 1, m is not less than 0.0001 but not more than 0.6, n is not less than 0.0001 but not more than 0.5, x is not less than 0.0001 but not more than 0.2, and y is not less than 0.0001 but not more than 0.5; wherein Y, Al and Si are substrate elements, and Ce, B, Na and P are activators. The yellow light afterglow material is prepared by the following steps: weighing oxides of elements or materials which can generate oxides at high temperature by molar ratio as raw materials, evenly mixing and then sintering the raw materials at 1200 - 1700°C in a reducing atmosphere.



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