

Method for preparing luminescent ceramics based on potassium-bismuth(III) phosphate-molybdate with europium(III) as activator and gadolinium(III) as sensitizer involves preparing feedstock from stoichiometric mixture of Bi_2O_3 , Eu_2O_3 , MoO_3 , K_2CO_3 , and $\text{NH}_4\text{H}_2\text{PO}_4$, where mixture additionally contains gadolinium oxide as sensitizer, and synthesis is carried out by their solid-phase interaction during stepwise sintering three times for 12 hours each at 600 °C with remixing after each sintering, wherein stoichiometric mixture additionally contains Cs_2CO_3 , wherein Cs_2CO_3 substitutes K_2CO_3 in stoichiometric mixture, and the molar ratio of Bi_2O_3 , Eu_2O_3 , Gd_2O_3 , MoO_3 , $\text{NH}_4\text{H}_2\text{PO}_4$, and K_2CO_3 is 98:1:1:200:200:200, with the Cs_2CO_3 : K_2CO_3 ratio selected from ratio group A: 1:3, 1:1, 3:1, 17:3.