

The present invention relates to nanotechnology, namely, to methods for producing raw materials for new packed consolidated functional nanomaterials. Method for obtaining powders on the basis of solid solutions of substitution  $(Lu_{(1-x)}Eu_x)_2O_3$ , where  $x = 0.01-0.1$  includes the formation of a precursor from a mixture of aqueous solutions  $Lu(NO_3)_3$ ,  $Eu(NO_3)_3$  and  $(NH_2)_2CO$ , the concentration of  $Lu(NO_3)_3$  in the aqueous working solution is  $2.2-17.4 \cdot 10^{-3}$  mol/l, urea  $((NH_2)_2CO - 1-3.3$  mol/l, molar ratio of  $Lu(NO_3)_3/(NH_2)_2CO$  in the aqueous working solution is selected within 0.001-0.02, the extraction of the precursor carried out by multistage centrifugation with washing in absolute ethanol, drying the precursor in air at a temperature of 20-30 °C, annealing of obtained powder precursor in air at 650-1000 °C for 2-4 hours. The method allows to obtain powders consisting of isolated spherical particles in the diameter range 40-280 nm with low size dispersion (10 %).