

Abstract Submitted
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Biological method for nanophosphor synthesis DONGDONG JIA, TYLER LAUDENSLAGER, JENNA GIRARDI, Lock Haven University of Pennsylvania, NANOTECH TEAM — Zygo and Asco fungi are cultivated to be able to grow in a salt solution with a concentration up to 1000 ppm. The salt components are $\text{Y}(\text{NO}_3)_3$ and 1% $\text{Eu}(\text{NO}_3)_3$. In these two salts dissolved solutions the fungi are grown for a couple of days. With an effective diffusion mechanism, the Y^{3+} and Eu^{3+} ions get into the fungi cells due to the concentration gradient. After the fungi are taken out of the original solution and being washed with distilled water, they are burnt in air at 1200 °C. White powder of $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$ nanophosphors were obtained. Because of the relative uniform of cell size and concentration, the nanoparticles are uniform and about 100 nm in size. The cells of fungi are actually acting as nanoreactors similar to emulsion, aerosol and other methods.

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