분무 열분해법을 이용한 조합화학 기법에 의한 PDP용 녹색 형광체 개발 및 최적화

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A green phosphor material, (La,Gd,Y)PO4:Tb for PDP application was investigated and its compositional optimization was performed using combinatorial chemistry method using spray pyrolysis. The optimum composition showing the highest PL efficiency under 147 nm VUV excitation was (La0.9875Gd0.0125Y0.0125)PO4:Tb0.2. The PL intensity of the phosphor materials was in the order of La, Gd, Y and as La content increased, luminous peak shifted toward short wavelength. The YPO4:Tb has the shortest decay time (4.7 ms) and the decay time was in the order of Y, La, Gd.