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Synthesis and Luminescence of Ba_2YCl_7

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New findings for Ba_2YCl_7 activated with $4f$ transition elements Eu^{2+} and Ce^{3+} are presented. These phosphors were synthesized using wet chemical procedure. As-synthesized Ce^{3+}-doped sample exhibited intense photoluminescence (PL). For Eu^{2+} activation, further heat treatment in reducing atmosphere at 700°C was necessary. Intense emission from these activators could be identified with the allowed intra-configurational transitions. Ease of preparation combined with intense PL make these hitherto unexplored phosphors potential candidates for applications such as scintillation.

Keywords: halide, photoluminescence, phosphor.