Influence of polyvinylpyrrolidone on the spectral–luminescent properties of YAG : Ce

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Samples of YAG doped with cerium ions (YAG : Ce) were obtained with the use of polyvinylpyrrolidone (PVP) with various molecular weight. PVP has been introduced at the stage of hydroxides coprecipitation. The introduction of PVP influenced on the morphology of YAG : Ce powders and it required longer times of heat treatment to obtain the pure garnet phase. Samples with PVP did not require heating in a reducing atmosphere, while the maintaining high efficiency of luminescence was shown. The observed effect is of practical importance.