



Fig. 1 Photoluminescence (a) and X-ray luminescence (b) of CeO₂:Eu (x=8% mol) sample prepared by conventional solid state reaction.

The emission peaks (${}^5D_0 \rightarrow {}^7F_2$ transition) are at 615 and 626 nm, which is somewhat different from the luminescence achieved by SCS. Under the same Eu doping concentration (x=8% mol), the photoluminescence and X-ray luminescence intensity is much lower than that with SCS, as can be seen from Fig.5e and Fig.8a.