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Facile synthesis and enhancement upconversion luminescence of ErF_3 nano/microstructures via Li^+ doping

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The composition and phase purity of the precursors were first examined by XRD. XRD patterns of precursors prepared with PVP, CTAB, Cit^{3-} and EDTA_2Na as chelating agent, respectively, are shown in Fig. s1. It could be seen that when PVP, CTAB or Cit^{3-} was chosen as additive, respectively, the formation phase is the standard cubic phase of $(\text{NH}_4)_2\text{Er}_5\text{F}_{17}$ crystal structure, while EDTA_2Na was chosen as chelating agent, the product changed to be orthorhombic phase of ErF_3 .

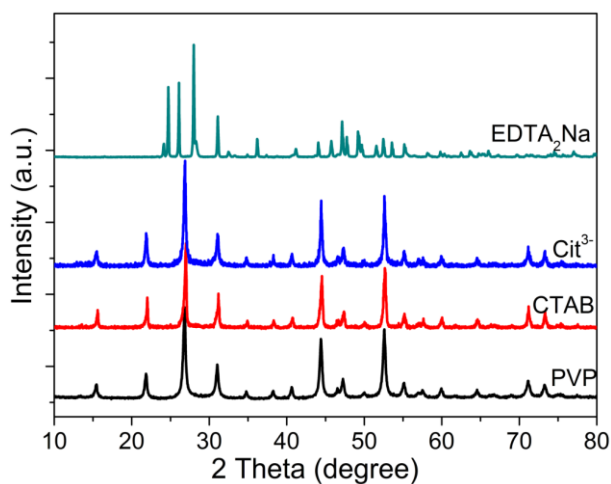


Fig. s1 XRD patterns of precursors prepared with different additives