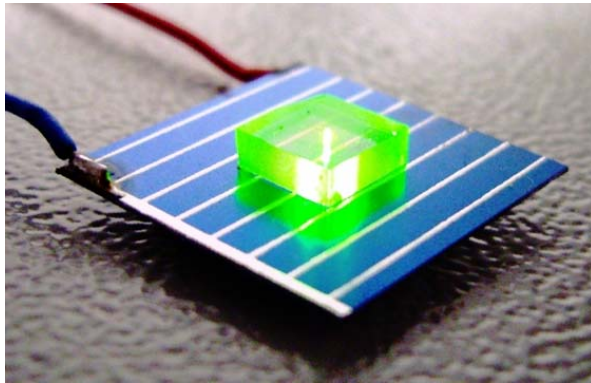


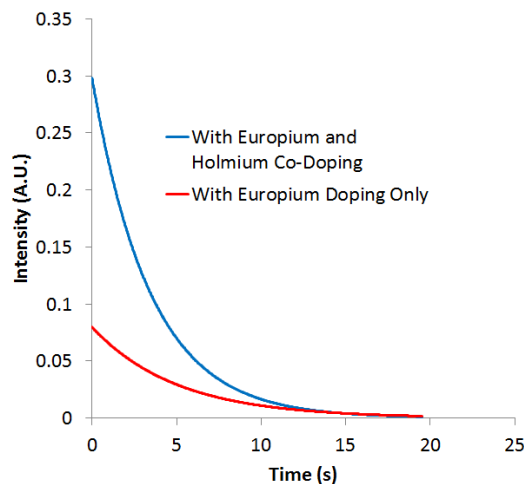
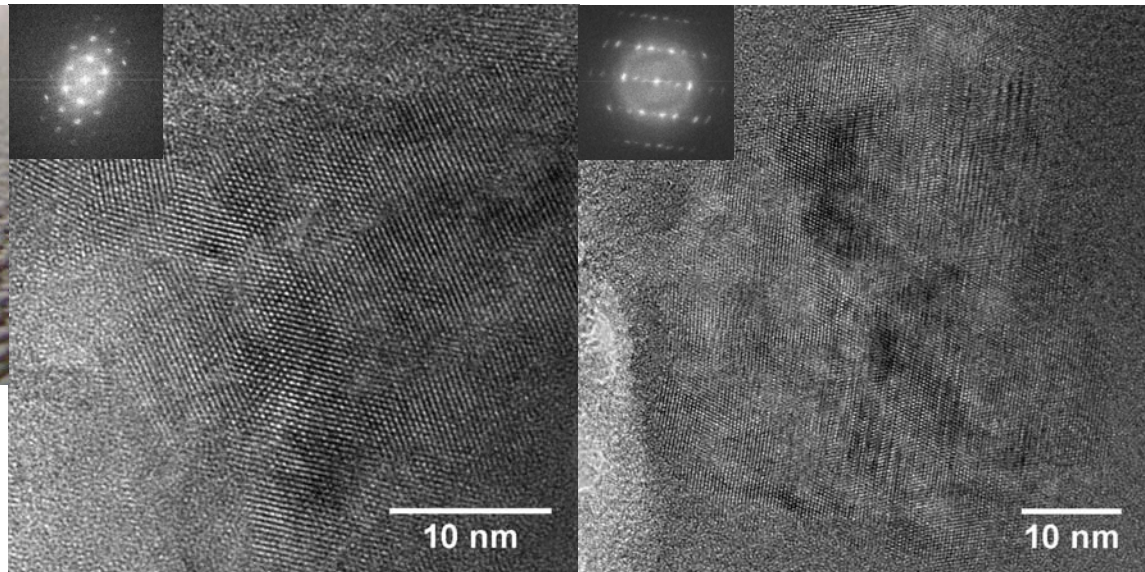
# Nanoparticles in ZBLAN Glass Ceramics

BaF<sub>2</sub> Orthorhombic

BaF<sub>2</sub> FCC



Er<sup>3+</sup>-doped ZBLAN excited at 1542 nm



- Unreported BaF<sub>2</sub> crystalline phases were found via both in-situ TEM and ex-situ annealing experiments in addition to BaCl<sub>2</sub>
- XRD experiments had suggested that only BaCl<sub>2</sub> was present
- Crystals vary in size between 10-100 nm for all phases
- Increase in photoluminescence with addition of Holmium.

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