

Supplementary Information

$[(Y_{1-x}Gd_x)_{0.95}Eu_{0.05}]_2(OH)_5NO_3 \cdot nH_2O$ ($0 \leq x \leq 0.50$) layered rare-earth hydroxides: exfoliation of unilamellar and single-crystalline nanosheets, assembly of highly oriented and transparent oxide films, and greatly enhanced red photoluminescence by Gd^{3+} doping

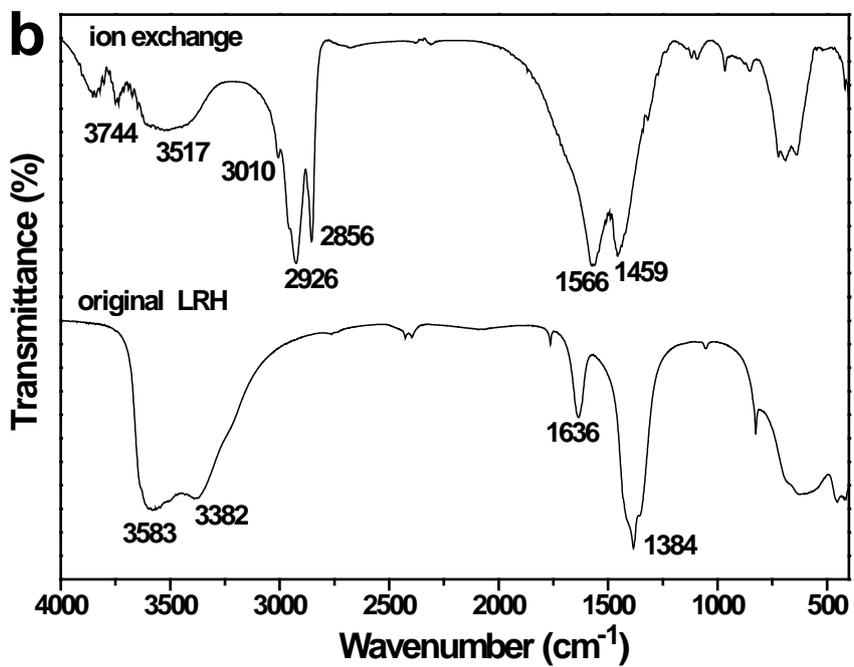
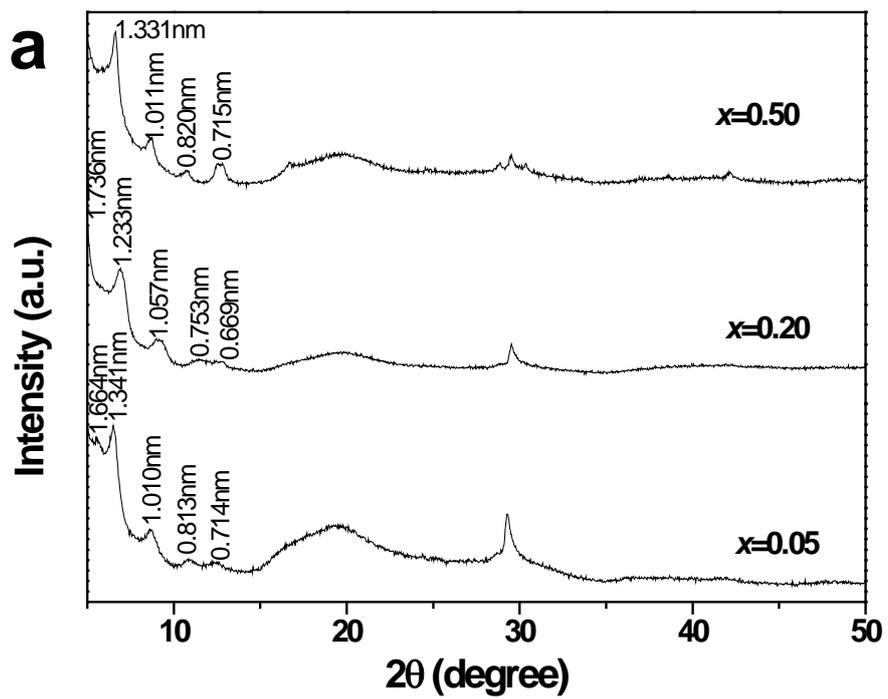
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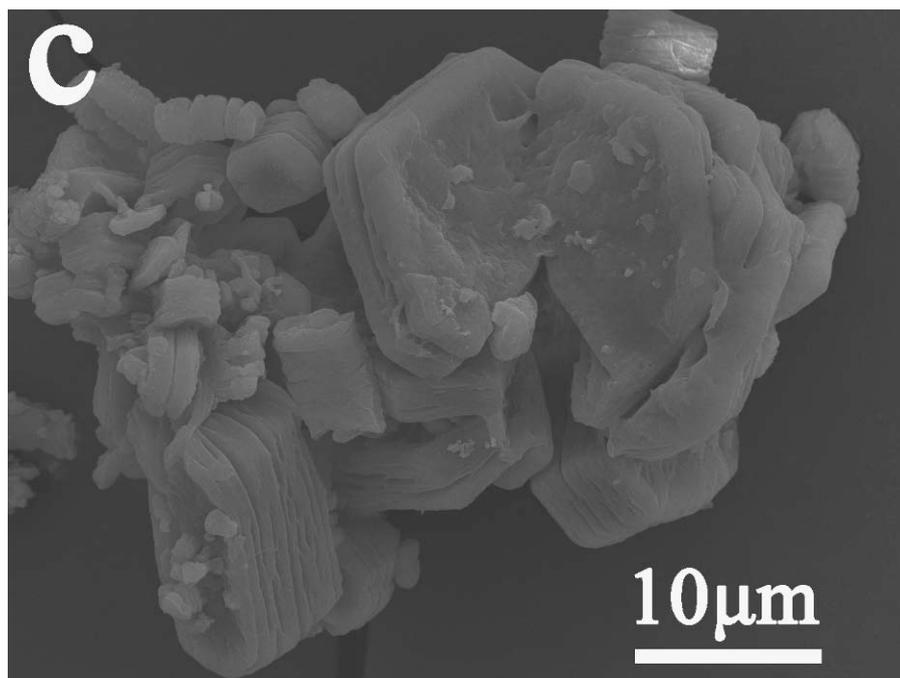


Figure S1 (a) XRD patterns of the LRH-oleate samples obtained by hydrothermal anion exchange. (b) FTIR spectra for the pristine LRH ($x=0.20$) and its oleate-exchange derivative. (c) is FE-SEM morphology of the LRH-oleate sample.