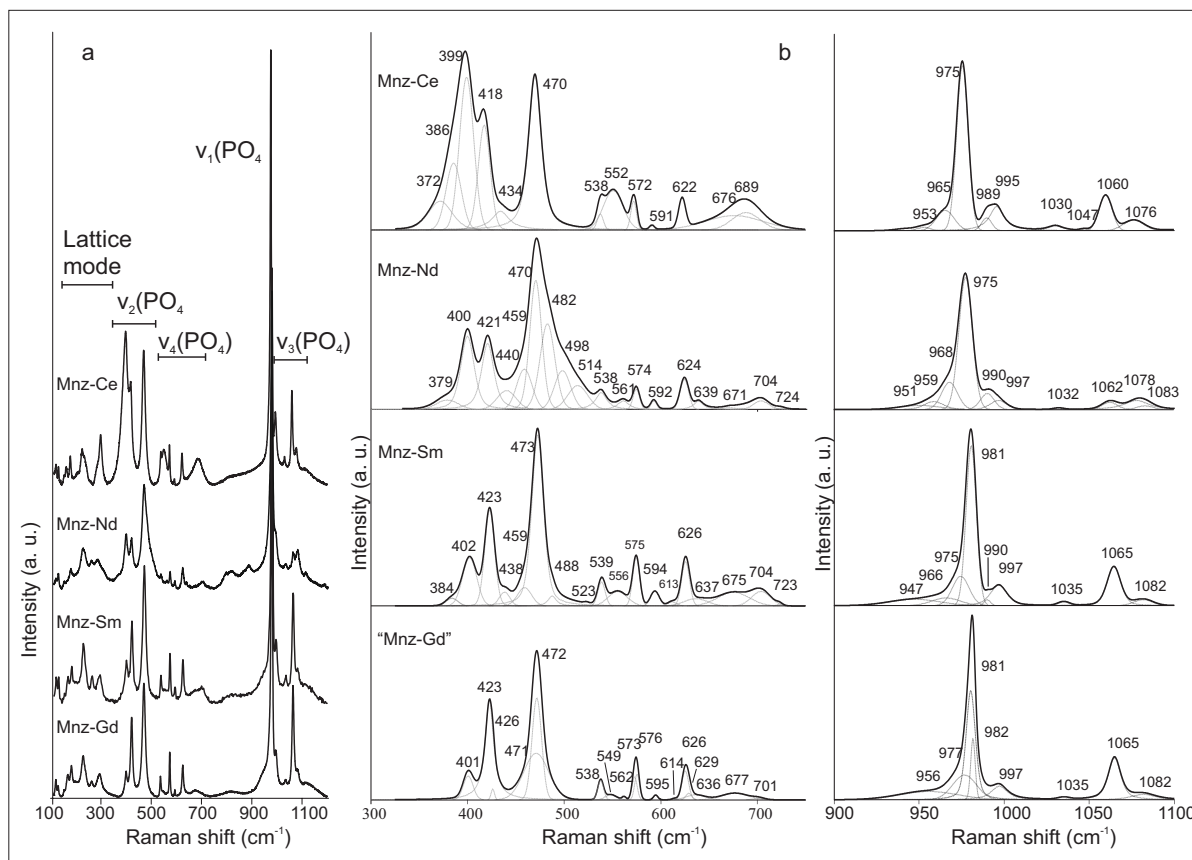
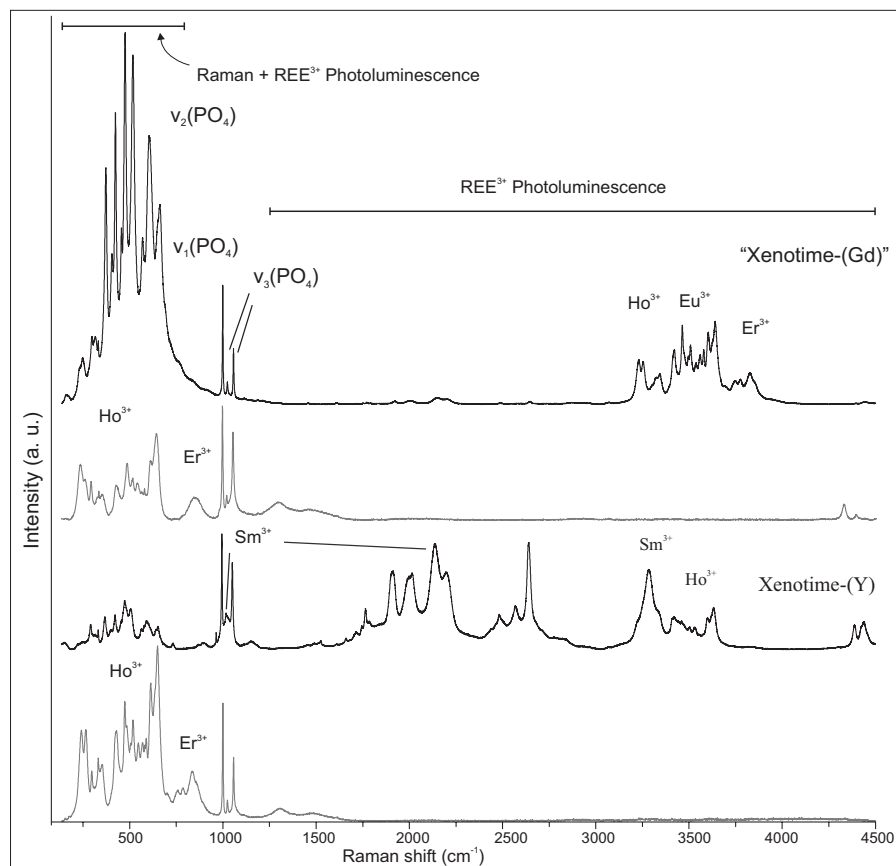


SUPPLEMENTAL FIGURE 1. WDS scan of the REE region (around Gd) with the spectral lines used for peaks and backgrounds of all relevant elements.



SUPPLEMENTARY FIGURE 2. Depolarized 532 nm-excited Raman spectra of MGM with their peak wavenumbers; **(a)** full range spectra with assigned Raman bands; **(b)** deconvolution of spectra to single Gaussian-Lorentzian-shaped bands in the regions of 300–750 cm⁻¹ and 900–1100 cm⁻¹. Intensity scale bar in arbitrary units (a. u.).



SUPPLEMENTARY FIGURE 3. Depolarized Raman spectra of XGM taken with two different laser excitations: 532 nm (black line) and 633 nm (gray line) with marked regions of PL and Raman bands. Intensity scale bar in arbitrary units (a. u.).