

# Confinement effects on optical phonons in polar tetrapod nanocrystals detected by resonant inelastic light scattering

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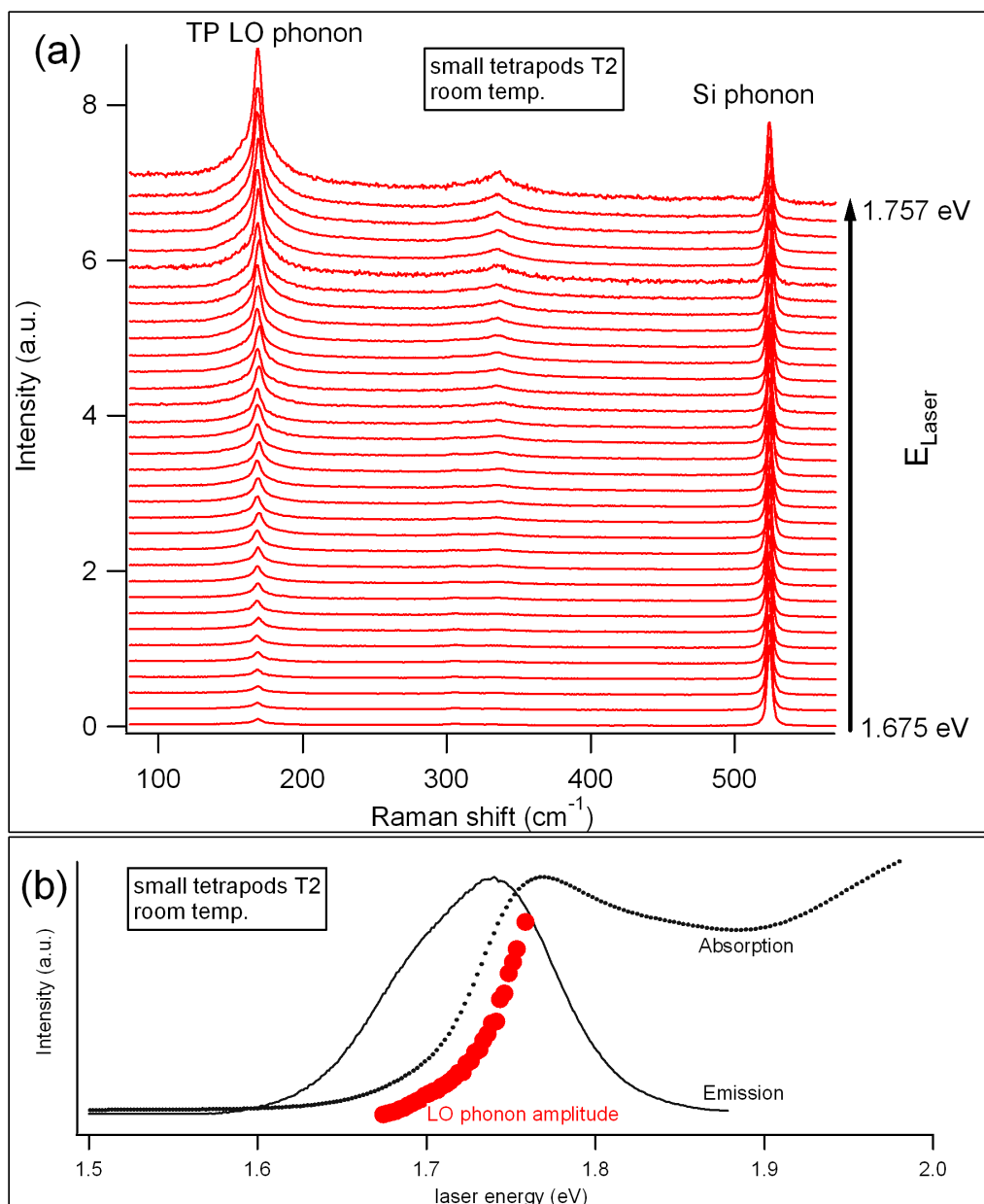
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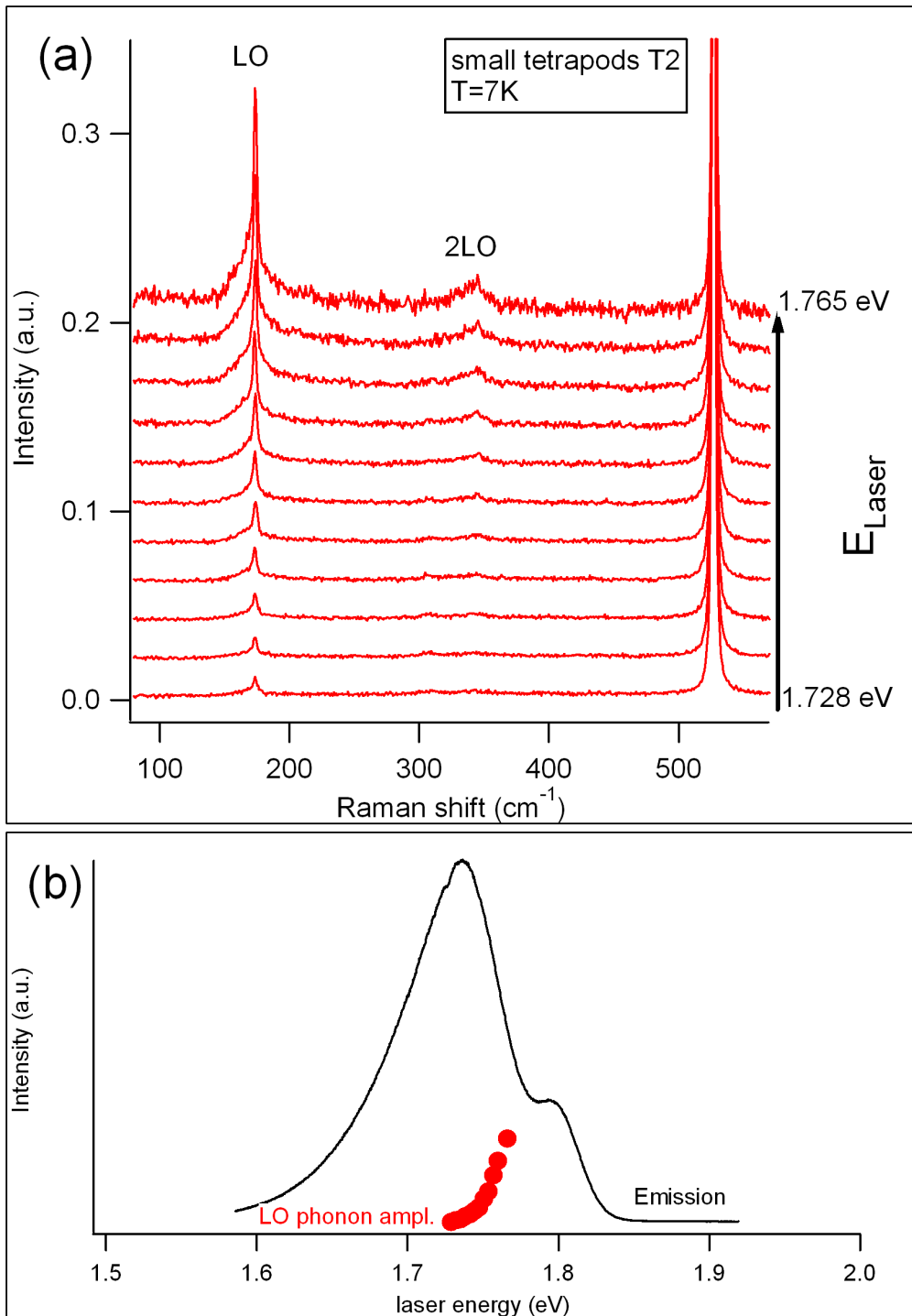
## Supplementary information

Resonant Raman Spectra of tetrapods with small arms (sample T2) at room temperature. Resonant Raman Spectra of tetrapods with small arms (sample T2) at T = 7 K.

**Supporting information:**



**Figure S1:** (a) Resonant Raman spectra of the small TPs T2 at room temperature. The CdTe phonon is observed at  $168.5 \text{ cm}^{-1}$ . The laser energy range is not sufficient to map the resonance maximum. The spectra are normalized with respect to the Si phonon intensity and shifted vertically for clarity; (b) TP LO phonon amplitude (red dots) and optical emission and absorption plotted versus the excitation laser energy. The phonon resonance is blue-shifted by roughly 20 meV (the LO phonon energy) with respect to the absorption curve.



**Figure S2:** Resonant Raman spectra of the small TPs T2 at  $T = 7$  K. The laser energy range is not sufficient to map the resonance maximum. The spectra are normalized with respect to the Si phonon intensity and shifted vertically for clarity; (b) phonon amplitude and emission at  $T = 7$  K. Here the double peak in TP emission is clearly evident (emission spectrum from Ref. <sup>9</sup>).