



Figure S1. Temperature dependence of inelastic neutron scattering data around the (2 0 0) Bragg peak. Panels (a) and (b) are identical to panels (a) and (e) in Figure 5 of the main article, which were obtained at $T = 200$ K. (c) Same as (a) but measured at $T = 10$ K. (d) Same as (b) but measured at $T = 10$ K. One can clearly see the suppression of phonon intensities at lower temperatures, except for the lowest-lying linear branch. This branch originates from the tail of the strong (2 0 0) Bragg peak.