



Figure 1: *In situ* TEM study: Heat treatment of core-shell nanowires (e.g. Cu/ALD-Al₂O₃). a) STEM image sequence showing the steady retraction of the nanowire core. b) High-resolution image sequence of thermally activated lattice vibrations at the metal core front. c) Temperature dependency of the average retraction velocity of the metal core material. d) Amorphous to crystalline phase transition.