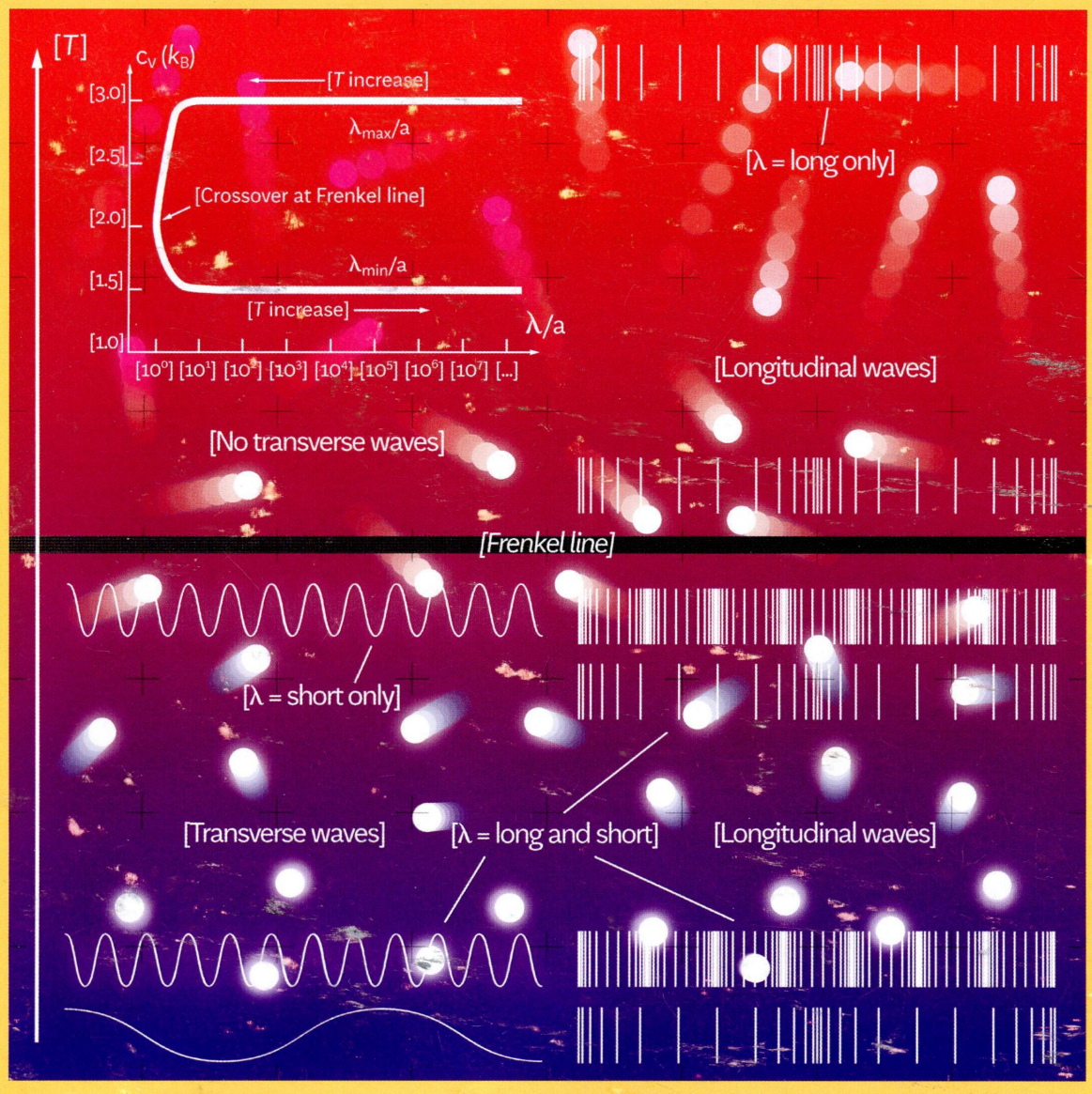
OCTOBER 23, 2014
VOLUME 118
NUMBER 42
pubs.acs.org/JPCB

THE JOURNAL OF PHYSICAL CHEMISTRY B



From Glass to Gas: Evolution of Transverse and Longitudinal Waves in Liquids with Temperature **(see page 5A)**

BIOPHYSICAL CHEMISTRY, BIOMATERIALS, LIQUIDS, AND SOFT MATTER

THE JOURNAL OF PHYSICAL CHEMISTRY B

OCTOBER 23, 2014
VOLUME 118 ISSUE 42

JPCBFK 118(42) 12075−12310 (2014)
ISSN 1520-6106

ON THE COVER: Evolution of transverse and longitudinal waves in disordered matter, from viscous liquids and glasses at low temperature to gases at high temperature. The transverse waves (left) start disappearing with temperature starting with long-wavelength modes and completely disappear at the Frenkel line. The longitudinal waves (right) do not change up to the Frenkel line but start disappearing above the line starting with the shortest wavelength, with only long-wavelength modes propagating at high temperature. The graph (top left) shows the variation of the specific heat as a function of the wavelength and decreases from $3k_B$ as in solids to $3k_{B/2}$ as in gases. Cover art created by Ricky Oh. See Brazhkin, V. V.; Trachenko, K. Collective Excitations and Thermodynamics of Disordered State: New Insights into an Old Problem. *J. Phys. Chem. B* **2014**, *118* (39), 11417−11427, DOI: 10.1021/jp503647s.

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