

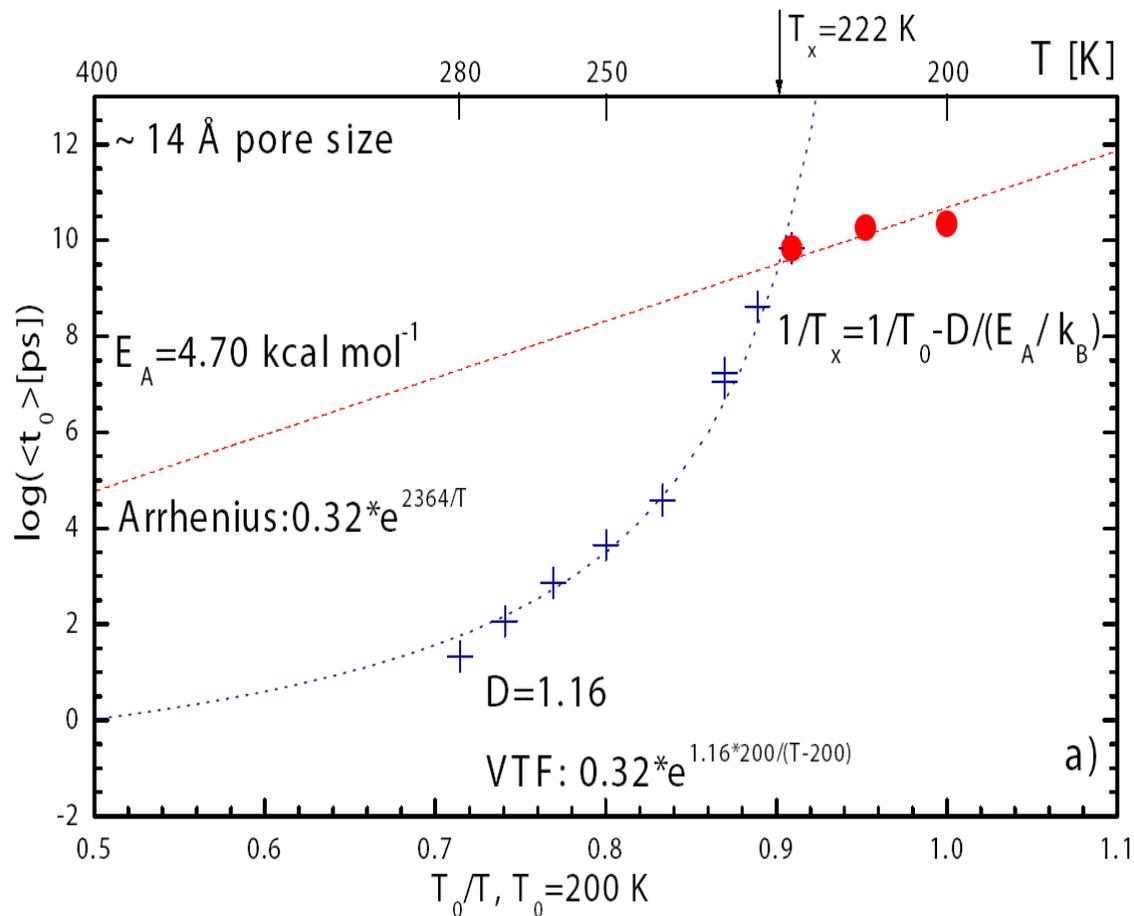
Fragile-to-Strong Liquid Transition in Deeply Supercooled Confined Water*

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There have been several hints over the years that water would undergo some type of transition at about 220 K. Of course this is considerably below the point at which supercooled water freezes and therefore this was experimentally inaccessible. In the past year, researchers from MIT have overcome this difficulty by confining water in the well-ordered silica nanopores of MCM type materials. Then, using CHRNS instruments, they have experimentally observed this transition and have shown that it is manifested by a cross-over from Arrhenius to non-Arrhenius behavior of the dynamics at about the expected temperature.



Measurements, obtained with the CHRNS HFBS and DCS spectrometers, of the translational relaxation times of confined water showing the abrupt change in the temperature dependence near 220 K.

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