

Abstract Submitted
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Fragility-Controllable Polymer Grafted Nanoparticles.¹ MAKOTO ASAI, SANAT KUMAR, ANGELO CACCIUTO, Columbia Univ — 20 years ago, the concept of ‘Fragility’ has been suggested to categorize glass-forming liquids. Currently, we know there are two kinds of glass-forming liquids group. One is Arrhenius type liquids called as Strong glass (large Fragility). Another one is non-Arrhenius liquid called as Fragile glass (small Fragility). The physical meaning of Fragility is unknown yet, but people believe that to understand the physical meaning of Fragility leads to understand glass transition. Recently we found Polymer Grafted Nanoparticles (PGNPs) could behave like glass-forming liquids depending on their grafting density in MD simulations. Surprisingly, their Fragility can be controlled by grafting density and we can obtain both ‘Strong’ and ‘Fragile’ glass using this system.

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Makoto Asai
Columbia Univ

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