

Abstract Submitted  
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**Thermodynamics versus network topology of network glasses** LE YAN, MATTHIEU WYART, Center for Soft Matter Research, Physics Department, New York University — Under cooling, the thermodynamics and the dynamics of super-cooled liquids are strongly correlated. The thermal evolutions of these quantities, characterizing the liquid fragility, depend greatly on the specific liquid considered. To date, there is no understanding of what controls these properties at a microscopic level. In chalcogenide glasses, the coordination of the covalent network can be changed continuously by varying their composition. Experiments show that as the coordination is increased, the jump of specific heat varies non-monotonically and is minimal at coordination near the Maxwell threshold where the covalent network becomes rigid. At such a composition the liquid is strong. We introduce a simplified model for the thermal evolution of networks that captures this observation.

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