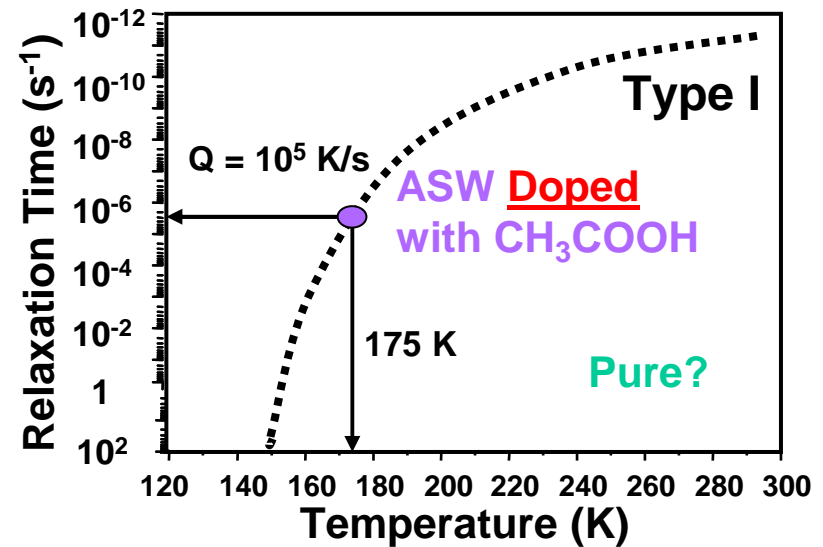
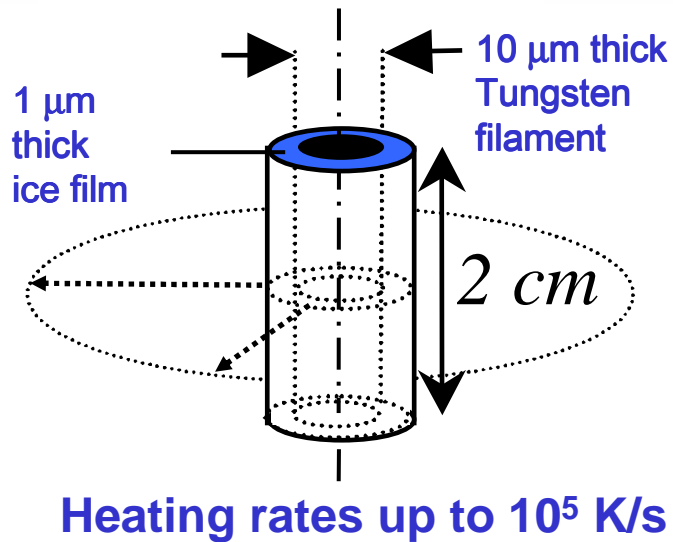
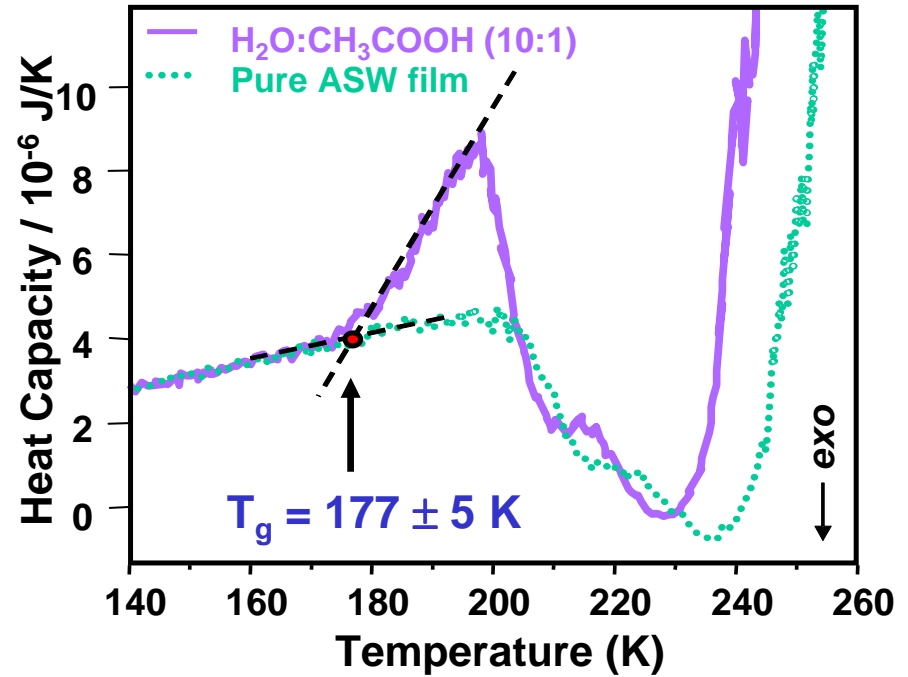
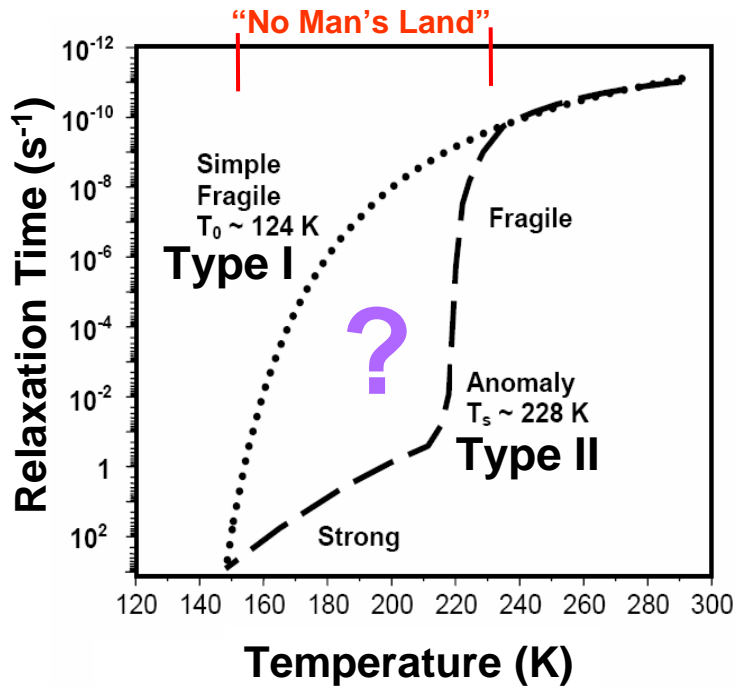
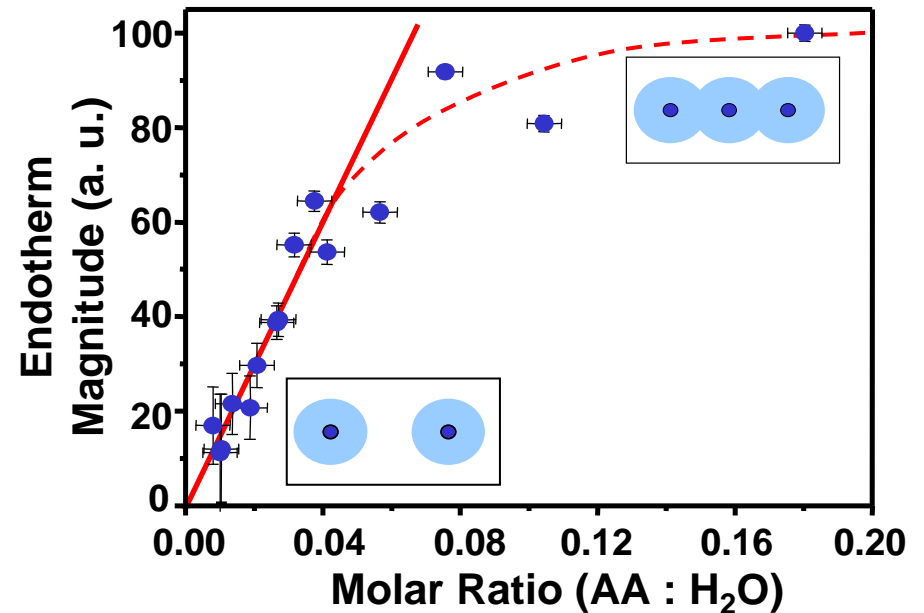
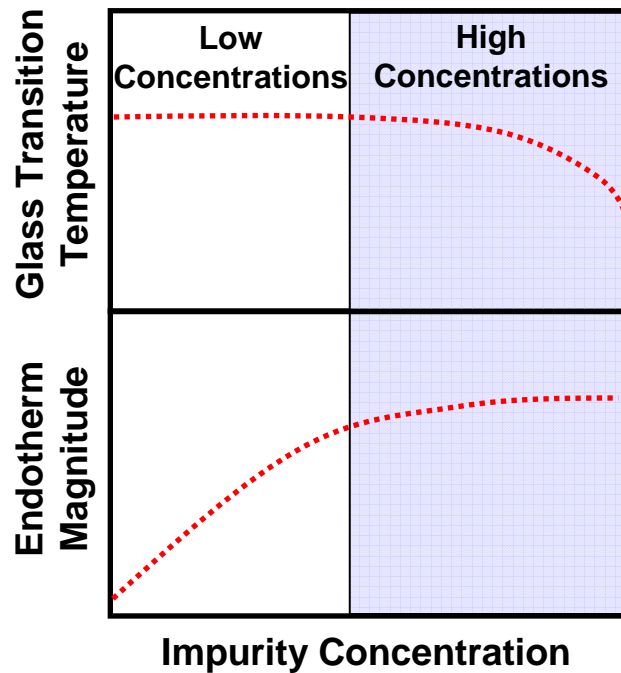
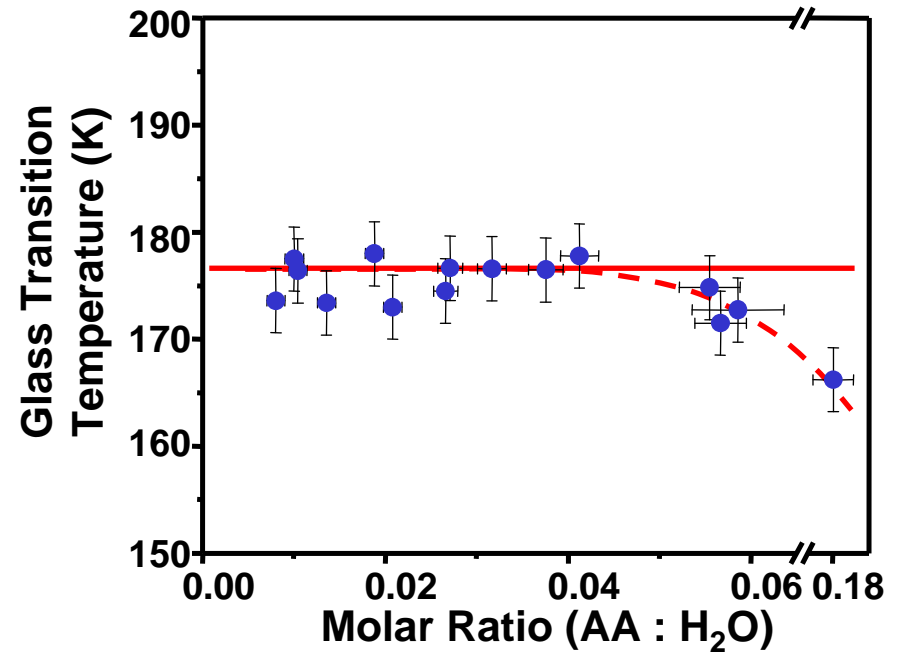
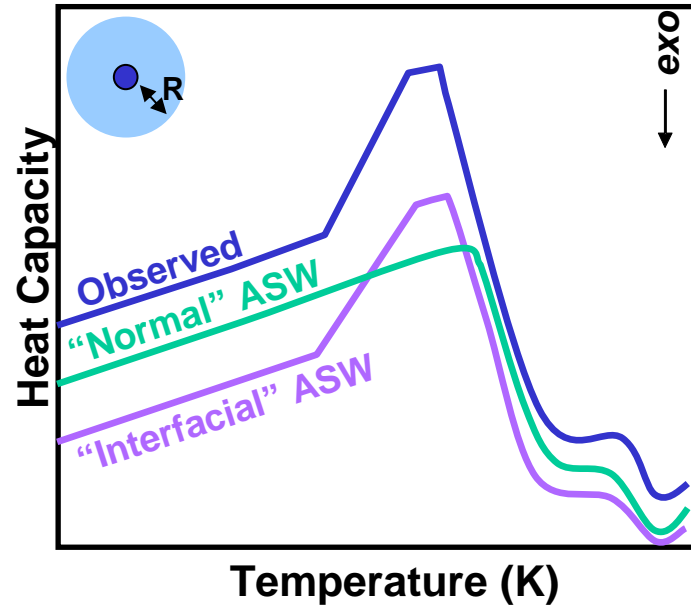


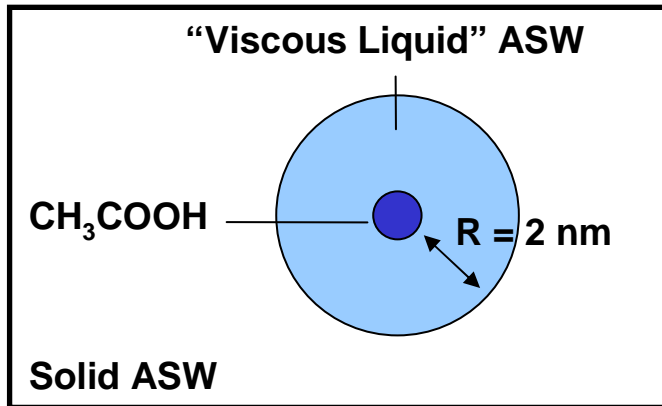
Glass Transition Phenomena in Pure and Doped Amorphous Solid Water Films



"Interfacial" Glass Transition Hypothesis



Conclusions



- Water forms a shell of viscous liquid around a CH_3COOH molecule, which properties are different from those of bulk, pure ASW. In particular the viscous water in the perturbation shell around the impurity may undergo a glass transition at 136 K while bulk, pure ASW *does not*.
- The characteristic dimensions of the viscous liquid shell can be determined from variations of glass transition temperature and glass endotherm magnitude with concentration of impurities.
- In the case of ASW doped with acetic acid, the viscous liquid shell around each CH_3COOH molecule consists of at least 25 water molecules.
- Finally, a great caution should be taken while interpreting results of ASW studies where influence of gas molecules cannot be ruled out.

Acknowledgements

- Haiping Lu and Professor Vlad Sadtchenko
- NSF Grant No. 0416091

