

Abstract Submitted  
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**What is the structure of aqueous-alkane nanodroplets?**<sup>1</sup> BARBARA WYSLOUZIL, HARSHAD PATHAK, Ohio State Univ - Columbus, ABDALLA OBEIDAT, Jordan University of Science and Technology, GERALD WILEMSKI, Missouri University of Science and Technology — *In situ* small angle X-ray scattering (SAXS) experiments were conducted on D<sub>2</sub>O-nonane nanodroplets produced in a supersonic nozzle. Fits to the scattering spectra, using standard models for multicomponent droplets such as well-mixed spheres and core-shell structures, were often poor and furthermore the amount of one of the condensed species often violated mass balance. Better fits were obtained using ‘lens-on-sphere’ models suggested by molecular dynamics simulations. Here the amount of nonane condensed, based on the SAXS fitting parameters, was quite close to that measured by infrared absorption spectroscopy although the amount D<sub>2</sub>O condensed was only half of that measured spectroscopically.

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