

Abstract Submitted
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Thermodynamic Investigation of thin n-Heptane films adsorbed on Magnesium Oxide (100) surfaces¹ DAVID FERNANDEZ-CANOTO, Oak Ridge National Lab, JOHN LARESE, University of Tennessee / ORNL — The thermodynamic properties of thin films of *n-Heptane* on MgO (100) were measured using high resolution adsorption isotherms between 205 K and 275 K. Heats of adsorption were derived for first and second layer adsorbed on substrate and yield 42.38 ± 0.98 kJ/mol and 40.58 ± 0.46 kJ/mol, respectively. The isothermal compressibility was determined as a function of temperature and used to identify two possible phase transitions at 246.2 ± 1.5 K for the first and at 250.7 ± 0.8 K for the second layer respectively. These results will be compared to previous thermodynamic and neutron diffraction measurements of other shorter chained alkanes.

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