Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Characterizing the Effect of Surface Hydrophobicity on Depletion Layer SHANNON PETERSEN, MARK SERALY, DYLAN MCNANY, ERIN BROWN, ADELE POYNOR, Allegheny College — When water meets an extended hydrophobic surface a region of reduced density called the depletion layer forms, but this phenomenon has only been experimentally verified on surfaces with contact angles >100°. Using self-assembled monolayers of organothiols on gold we produce surfaces with contact angles between 55° and 107° and then use surface plasmon resonance spectroscopy to quantify the thickness of the depletion layer formed. These experiments allow for the understanding of how the depletion layer changes with the hydrophobicity of a surface which is one of the underlying mechanisms behind several biological systems.

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Date submitted: 15 Nov 2013 Electronic form version 1.4