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**Study of pluronic F68 molecules on silicon with Atomic Force Microscopy (AFM)** M.J. RETAMAL, U.G. VOLKMANN, Pontificia Univ. Catolica de Chile, V.D. SAMITH, Univ. Andres Bello, Chile — The triblock copolymer pluronic F68 belongs to a class of amphiphilic nonionic surfactants, relevant for applications in medicine, which includes transport of drugs to selective targets in the human body. In the present work, pluronic F68 films have been deposited on Si/SiO<sub>2</sub> substrates. Previous to deposition, Si/SiO<sub>2</sub> substrates were cleaned in acid and afterwards rinsed with ultra pure water. This cleaning method leaves intact the silicon oxide layer and provides a hydrophilic surface. The aliquots were prepared from aqueous solutions, obtaining different concentrations, which were deposited on the substrates and dried at room temperature. Each of these dispersions is in the range from  $0.5 \times 10^{-4}$  M to  $10.0 \times 10^{-4}$  M. Atomic force microscopy (AFM) shows changes in the morphology of the films, caused by the gradual increase of concentration. These changes occur in a narrow range of concentrations, attributed to the critical micelle concentration (CMC). Supramolecular structures (clusters) coexist at the CMC and above, forming 3D structures such as “dendritics.” The percentage of F68 coverage on the substrate depends on the increase in molar concentration. In a “coverage vs. molar concentration” plot we obtain a curve with an inflection point that coincides with the CMC reported for a variety of techniques and conditions.

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