

Public Abstract

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Department:Chemistry

Degree:MS

Title:11- AMINO-1 UNDECENE - COVERED SI (100) AND GE (100) SURFACES

Due to the similar properties and structures of silicon and germanium surfaces, they have similar methods of passivation and organic functionalization reactions. The formation of organic monolayers on semiconductor surfaces has recently become an area of intense investigation. One important motivation is the need to control electronic properties by covalently attaching molecules to the semiconductor surface. Another driving motivation is to incorporate organic molecular properties, such as chemical affinity, flexibility, conductivity, and chirality for developing biomedical sensors. The research described herein investigates the hydrogen, t-Boc, and amine terminated Si(100) or Ge(100) surfaces, and to determine the elemental percentages of carbon, nitrogen, oxygen and silicon/ germanium present at the semiconductor surface using X-ray photoelectron spectroscopy (XPS).