Abstract Submitted
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Surface engineering and adhesion modification of SAM surfaces of 1-hexanethiol and 1-decanethiol: confining Staphylococcus aureus[1] MORGAN OLSEN, ALICIA AMROSKI, Department of Chemistry, Lock Haven University, PA 17745, JOSEPH CALABRESE, Department of Biology, Lock Haven University, PA 17745, RESHANI SENEVIRATHNE, Don's Food Products, Schwenksville, PA 19473, INDRAJITH SENEVIRATHNE, Department of Geology and Physics, Lock Haven University, PA 17745 — Engineering surfaces for adhesion and confinement of bacteria is interesting towards development of respective biosensors, and bio machine interfacing. Investigation was focused towards modification of surfaces towards confinement and entrapment of the nonpathogenic strain Staphylococcus aureus or similar pathogenic strains and to study surface engineering. Clean, flat Au(111) on mica surfaces were used for self assembly for Self Assembled Monolayers (SAM). 1-hexanethiol, and 1-decanethiol were used at total 5 mM solutions in varying ratios, in 200 proof Ethanol solution. Resulting SAM layers were investigated for surface corrugation, morphology and structure variation at different thiol ratios. Observations will be discussed, quantitatively and qualitatively. Eventual mixture ratios were so selected towards optimum conditions for confining Staphylococcus aureus as a model system. SAM surfaces were investigated using intermittent contact, noncontact, lateral force and contact modes of Atomic Force Microscopy (AFM).

[1]Lock Haven University Nanotechnology Program

Morgan Olsen
Department of Chemistry, Lock Haven University, PA 17745

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