

Abstract Submitted  
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**Experimental and analytical study of ionic self-assembly of silica and titania nanoparticles** BRIAN SIMPSON, WILL BANKS, VINCENT KIM, ANDREW SEREDINSKI, KATY WILSON, IRINA MAZILU, DAN MAZILU, Washington and Lee University — Using the ionically self-assembled monolayers (ISAM) technique we investigate the time dependence of the surface coverage of thin films that consist of alternating layers of silica or titania nanoparticles deposited on polymer substrates. We conduct experiments in order to investigate the significant observable factors that affected the quality of the coatings including the dipping time, pH, and the molarity of the silica, titania, and PDDA solutions. Using SEM micrographs, we analyzed the surface coverage and compared it to analytical results obtained using a cooperative sequential adsorption model.

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