

**(SP-05)**

## **Fabrication of Organic-Inorganic Hybrid Multi-layers by Using Molecular Layer Deposition in Vacuum**

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We have been studied the formation of organic-inorganic hybrid self-assembled multi-layers using molecular layer deposition at the gas phase. Alkylsiloxane monolayers has been formed on  $\text{TiO}_2/\text{Si}$  substrates at  $200^\circ\text{C}$  in the gas phase. In order to modify the terminal alkyl groups of DTS monolayers, it was activated by ultra-violet/ozone/ $\text{H}_2\text{O}$  at  $200^\circ\text{C}$ . The  $\text{TiO}_2$  thin films were grown on SAMs by atomic layer deposition from titanium isopropoxide and water. The multi-layers have been investigated by X-ray photoelectron spectroscopy (XPS), contact angle analysis (CAA) and transmission electron microscopy (TEM).