

**【N-08】**

## **Bottom-up Patterning Method by using of Microcontact Printing and Atomic Layer Deposition on Gold**

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Microcontact printing ( $\mu$ CP) is a versatile soft-lithographic technique to patterned substrates. The elastomeric stamp of PDMS is inked with an ethanoic solution of hexadecanethiol (HDT) and placed in contact with the surface of gold. After removal of the stamp, the gold surface can be immersed with a dilute ethanoic solution containing a second alkanethiol (11-mercapto-1-undecanol); this second thiolate precursor selectively derivatizes the bare region of the gold.  $\text{TiO}_2$  thin films were deposited selectively on the OH-terminated regions of the SAMs by atomic layer deposition (ALD). We have characterized the resulting with atomic force microscopy (AFM).