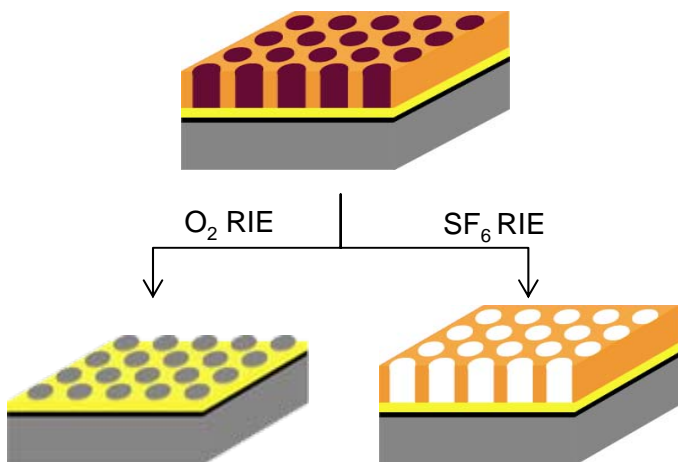


# Gold Nanoarrays from Silicon-Containing Block Polymer Templates

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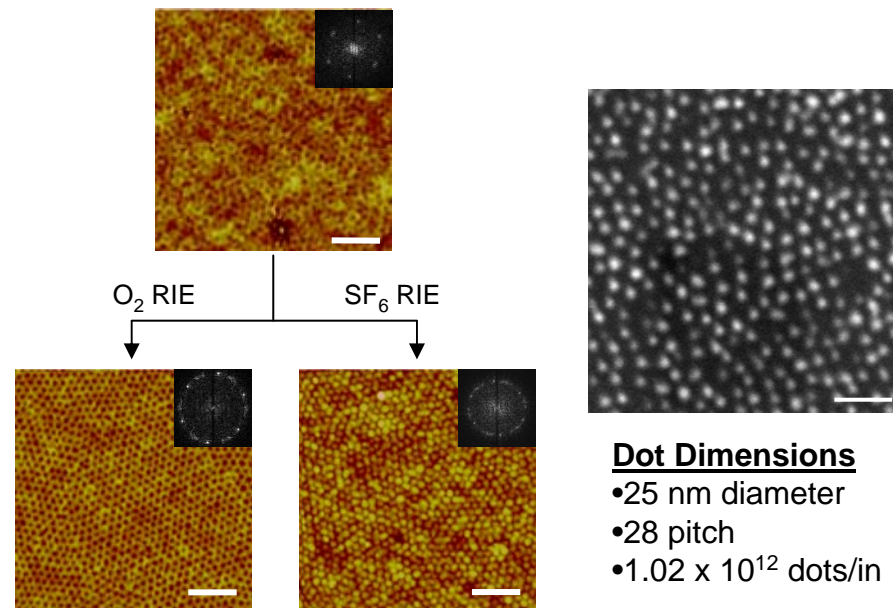
## DESCRIPTION OF WORK

- Orthogonally etchable polylactide—polydimethylsiloxane—polylactide (LDL) block polymers were prepared and characterized.
- Thin films of well ordered, surface normal PDMS cylinders in a PLA matrix were fabricated.
- SF<sub>6</sub> Reactive Ion Etching (RIE) selectively removed PDMS domains; O<sub>2</sub> RIE oxidized PDMS, yielding SiO<sub>x</sub> nanodots and simultaneously removed the PLA matrix.
- Block polymer patterns were then transferred to an underlying Au layer.



## MAJOR OBSERVATIONS

- Well ordered arrays obtained after solvent annealing
- Selective RIE to form nanopatterned block polymer
- Fabrication of Au nanodots via pattern transfer using Ar ion milling



Left: AFM images of annealed films after selective RIEs (100 nm scale bar)  
Right: SEM image of Au nanodots (150 nm scale bar)

## Publication

- Rodwogin, M. D.; Spanjers, C. S.; Leighton, C.; Hillmyer, M. A. *ACS Nano* **2010**, *4*, 725.