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MicroChem S1800 Series Resist Application onto Si

Steven Wood
University of Pennsylvania, stewood@seas.upenn.edu

GERALD G. LOPEZ
Singh Center for Nanotechnology, lopezg@seas.upenn.edu

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MicroChem S1800 Series Resist Application onto Si

Summary/Description
The Quattrone Nanofabrication Facility standard operating procedure for the application of MicroChem S1800 series resist onto an Si wafer is provided in this document.

Keywords
S1800, positive resist, SURPASS

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Goal:
To provide a description of MicroChem S1800 series resist onto Si.

Materials:
- MicroChem S1805, S1813 or S1818 positive photoresist
- SURPASS 4000 Primer (http://www.discheminc.com/)
- Isopropyl Alcohol (IPA)
- 4 inch Silicon Wafers

Equipment:
- Torrey Pines Scientific hotplate
- ReynoldsTech Spinner

Protocol:

<u>Prime</u>
1. Mount wafer and ensure that it is centered.
2. Deposit 7 milliliters of SURPASS 4000 in the center of the wafer. SURPASS treatment promotes adhesion between the native oxide and resist.
3. Spin on primer at 3000 RPM for 45 seconds.
4. Rinse with IPA with 15 seconds left on the spin cycle.
5. N2 blow dry after spin is complete.

<u>Coat</u>
1. If needed, re-mount the Si wafer and ensure that it is centered.
2. Deposit 7 milliliters of S1805 photoresist in the center of the wafer.
3. Spin on photoresist at 4500 RPM for 60 Seconds.

<u>Soft Bake</u>
1. Bake wafer at 115 °C for 60 seconds.
2. Allow wafer to cool to room temperature

<u>Exposure</u>
- Exposure settings are based on the thickness and dose needed to clear.

<u>Development</u>
- Development is typically done with MF-319 for 60 seconds followed by a rinse in DI water and an N_2 blow dry.