**Water**  Water (H₂O) is a polar molecule that has a negatively charged end and a positively charged end.

**Capillary Action**  Capillary action is the physical affect (force) that occurs with water on the walls of a tiny thin tube. Water climbs up the walls of the tube, against gravity, because of the strong attraction of the polar (charged) water molecule and the polar surface of glass (SiO₂).

**Masks**  A mask is designed to block out UV light. In this activity, you can design your own pattern of your mask and make as many masks as you would like.
**Mercaptohexadecaonic Acid (MA)** MA molecules are used to make a self-assembled monolayer (SAM) on a wafer. These molecules have a sulfur-hydrogen (SH) on one end that can covalently bond to gold, and a (COOH) group on the top that is negatively charged (hydrophilic). UV light at 254nm can break the covalent bond between the sulfur and the gold.

**Hexadecane Thiol (HT)** HT molecules also can be used to make a self-assembled monolayer (SAM) on a wafer. These molecules have a sulfur-hydrogen (SH) on one end that can covalently bond to gold, and a (CH₃) on the other end that is non-polar (hydrophobic). UV light at 254nm can break the covalent bond between the sulfur and the gold.