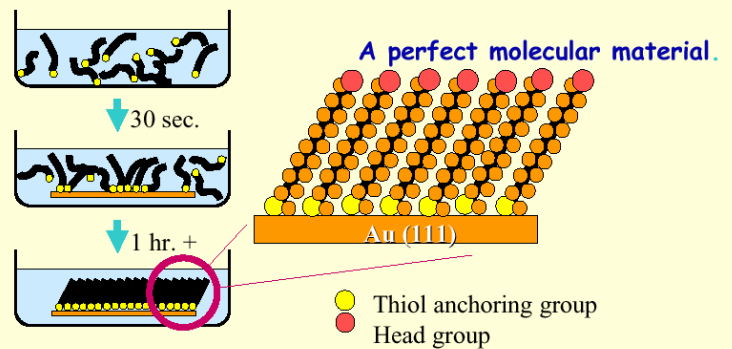




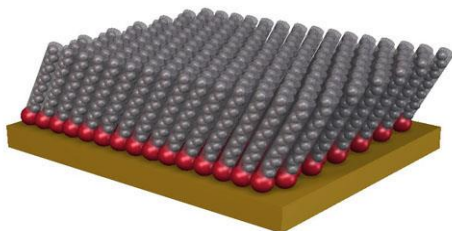
Electro-Spec's innovative methods for plating include a major technological advancement known as NanoSHIELD-AU™. With a thicker and tighter film build over its predecessor (SAM's), this process employs multi-functional molecules that offer two or more termination groups with different functionality. With surface exposure, one end of the molecule is attached to a specific surface while the other end provides a specific functionality. These molecules adhere and align on the surface of gold to provide an impervious layer. This alignment on the surface imparts enhanced properties while maintaining the metallurgical properties of the gold. Gold is inherently soft and porous. NanoSHIELD-AU™ provides significantly improved wear and corrosion protection with gold through these highly adherent molecules without affecting hardness or purity in the process.

n-Alkyl Thio Self-Assembly on Gold (111)



Process and Purpose of: NanoSHIELD

- A surface treatment (post plate) that forms a protective (molecular) layer on gold plated surfaces
- Precious metal thickness reduction and significant cost savings through enhanced corrosion, diffusion and wear resistance for electronic applications
- Diffusion barrier to intragranular and trans-granular metallic contamination and modification (Cu migration)
- Better solderability
- Thickness reduction
 - 35% to 75% precious metal cost reduction with reduced thickness produces equal or better performance to standard thicknesses



Porosity & Thickness

