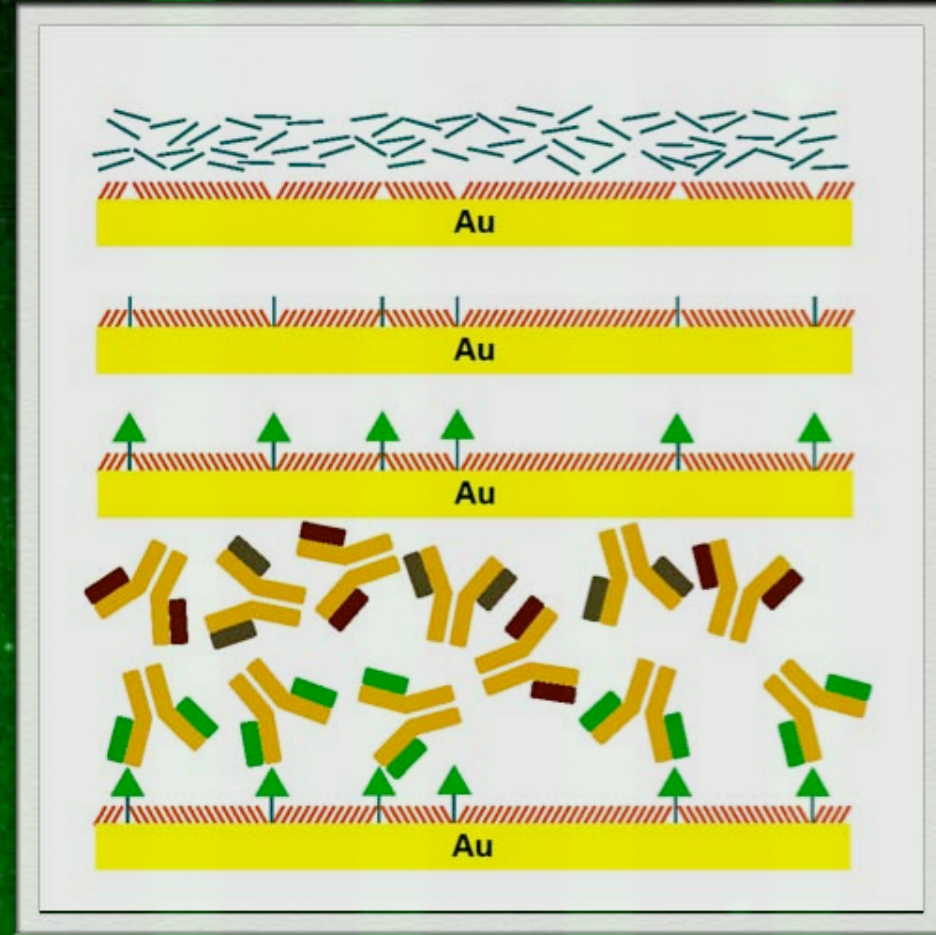


Capturing Large-Molecule Fish with Small-Molecule Bait

A single layer of molecules that resists bio-molecule binding is first self-organized onto a gold substrate. When this film is placed into a solution of tether molecules, the tethers insert into isolated defect sites. Bait molecules (green triangles) such as serotonin are then linked to the tethers. When this “capture surface” is exposed to a mixture of proteins, only those with high affinity for the bait will bind to it. The wide spacing of the tethers enables these small tether molecules to bind large biomolecules such as antibodies or brain receptor proteins. Other patterns, such as alternating stripes of serotonin and hydroxyl, can also be produced.



OH serotonin OH serotonin OH serotonin OH serotonin OH serotonin OH serotonin OH serotonin OH serotonin OH serotonin OH