

291aa Novel Structure to Measure Single Molecule Conductance

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In order to allow today's microelectronics to further scale-down, molecules have been assembled into electronic circuits instead of the standard electronic devices. Several efforts have been carried out to measure the current-voltage characteristics of the molecules of interest. However, large disparities exist between them. Here, we develop a simple test structure where a gold nanoparticle with a self-assembled molecular layer bridge between 2 gold leads with only ~20nm gaps fabricated by dip pen nanolithography. Several type of molecules have been self-assembled on the nanocluster and current-voltage characteristics have been obtained.