Abstract Submitted
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**Single molecule characterization with well-defined contacts**[1] ALEX NEUHAUSEN, FRANK JAECKEL, JEREMY HIATT, JOSEPH SULPIZIO, DAVID GOLDHABER-GORDON, CHRIS CHIDSEY, W. E. MOERNER, ZHENAN BAO, Stanford University — We demonstrate a novel method to reliably achieve ohmic contact to single molecules in a geometry that allows for simultaneous transport measurements and Raman spectroscopy. We achieve this by lithographically defining gold contacts to a structure composed of a single molecule bridging a pair of gold nanoparticles. The transport measurements indicate negligible resistance from the contacts as compared to the single molecule behavior, and the Raman spectroscopy benefits from strong field enhancement between the two nanoparticles. We prove the presence of single molecules with both stoichiometric and spectroscopic analyses.

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