Evidence for a single hydrogen molecule connected by an atomic chain

Stable, single-molecule conducting-bridge configurations are typically identified from peak structures in a conductance histogram. In previous work on Pt with H-2 at cryogenic temperatures it has been shown that a peak near 1G(0) identifies a single-molecule Pt-H-2-Pt bridge. The histogram shows an additional structure with lower conductance that has not been identified. Here, we show that it is likely due to a hydrogen decorated Pt chain in contact with the H-2 molecular bridge.

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