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Time Evolution of Electric Properties of Mn_{12}-Acetate Film Measured with Self-assembled Tunneling Junction LIANXI MA[1], Dept. of Physics, Texas A&M University, CHI CHEN, GLENN AGNOLET, Texas A&M University — we report the results of tunneling measurement of Mn_{12}-Ac thin film ($\sim$2 monolayer) at the time right after the film is made and after 6 months. We found that for the fresh film the differential conductance can change suddenly at bias voltage about -0.1 V and staircase form of $I-V$ curves are observed. At about 0 V bias voltage, we see the conductance changes from minimum to maximum as the initial resistance decreases. For the film stored for 6 months, however, all of these properties have been lost and high frequency oscillation on conductance is frequently observed. Also for the stored sample, clean $I-V$ curves are rarely seen. All of these results indicate that deterioration of the molecules after 6 months.

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