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Gate 전압 변화에 따른 Zn-*M*-DNA 분자의 전계 효과 특성 연구

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The current-voltage (*I-V*) characteristics of *M*-DNA molecules were investigated by attaching on the three-terminal electrode. The current variation monitored between source and drain by sweeping the gate voltage. For the current work, we mainly report the experimental results obtained from *M*-DNA prepared using λ (lambda) DNA. Once *M*-DNA molecules were trapped on the top electrode, the sample chamber was evacuated to minimize the humidity effects on the measurement of *I-V*characteristics. We found that the current of *M*-DNA molecules measured between source and drain (I_{DS}) increases as both the gate voltage increases and decreases. Since the I_{DS} data obtained in this work were collected on vacuum, we suggest that the I_{DS} modulation caused by the gate voltage is due to the field effect.