

Nanoscale Memory Device Composed of Recombinant Azurin Immobilized on Au- Hexagonal Nano Array Electrodes

아자이쿠마르야가티, 이택, 민준홍¹, 최정우*
서강대학교; ¹중앙대학교
(jwchoi@sogang.ac.kr*)

We develop an approach for the fabrication of protein based memory device, which is capable of switching physical properties upon application of electrical input signals to perform memory switching. Recombinant azurin was immobilized on Au nanopattern formed on ITO substrates and reversibly converted between its ON/OFF states. Developed device behaves as an extremely robust redox switch in which an electrochemical input is transduced into optical and for magnetic outputs under ambient conditions. The developed device can be patterned and also has good stability, excellent reversibility, which is a promising platform for future memory devices. Acknowledgements: This research was supported by the Nano/Bio science & Technology Program (M10536090001-05N3609-00110) of the Ministry of Education, Science and Technology (MEST, by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MEST) (2012-0000163), and by the Ministry of Knowledge Economy (MKE) and Korea Institute of Advancement in Technology (KIAT) through the Workforce Development Program in Strategic Technology.