

Reversible Gel-Sol Transition of DNA Gel

Daisuke Kandatsu¹

kandatsu@molbot.mech.tohoku.ac.jp

Shin-ichiro M. Nomura¹

nomura@molbot.mech.tohoku.ac.jp

Satoshi Murata¹

murata@molbot.mech.tohoku.ac.jp

¹Graduate School of Engineering, Tohoku University,
6-6-01 Aobayama, Sendai, 980-8579 Japan

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DNA gel have been attracted much attention for its programmable functionality. We propose a DNA gel made of DNA motifs with designed base sequences. The motif is a cross shaped DNA junction with a self-complementary sticky end and a photo-linking artificial base at each arm. Under controlled temperature with UV irradiation, we have been succeeded in making the sol-gel state transition in repetitive manner. The physical properties of DNA gel such as the swelling degree and diffusion coefficient is measured in both sol or gel state of the DNA. This data will be used to design slime-type molecular robot.

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