Supplementary data

Controlled Release of Plasmid DNA from Gold Nanorods Induced by Pulsed-Near-Infrared Light

Hironobu Takahashi, a Yasuro Niidome a,b and Sunao Yamada a,b

a Department of Materials Physics and Chemistry, and b Department of Applied Chemistry, Graduate School of Engineering, Kyushu University, Hakozaki, Fukuoka, 812-8581, Japan.; E-mail: ynidotcm@mbox.nc.kyushu-u.ac.jp, sunaotcm@mbox.nc.kyushu-u.ac.jp

Gel electrophoresis patterns of PC-NR/DNA complexes before (a) and after (b-f) 15 seconds of the laser irradiation are shown in Fig. S1. Before laser irradiation (a), all plasmid DNA remains in the well. After 100 (a) and 150 (b) mJ/pulse of laser irradiation, no fluorescent bands of migrated DNA can be seen in the gel. When 200, 250, and 300 mJ/pulse of laser light are irradiated onto the PC-NR/DNA complexes respectively (lane d-f), the fluorescent bands can be seen at the same position as that of the supercoiled DNA (ref). This indicates that the plasmid DNA are partially released from the PC-NR/DNA complexes by 15 seconds of the laser irradiation.

Fig. S1 Agarose gel electrophoresis of plasmid DNA (ref), and PC-NR/DNA complexes before (a) and after (b-f) 15 seconds of laser irradiation. Plasmid DNA was mixed with 1 mM of PC-NR solutions (8 µL) (“ref” is 0.05 µg of plasmid DNA without PC-NRs). Laser intensities: (a) 0, (b) 100, (c) 150, (d) 200, (e) 250 and (f) 300 mJ/pulse. PC-NR/DNA complexes were electrophoresed in an agarose gel (1% w/v) and stained with SYBR® Green.