Supporting Information

Protein Recording Material: Photo-Record/Erasable Protein Array Using a UV-Eliminative Linker

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AFM imaging

The surface characterization of the quantum dot 605-streptavidin conjugate immobilized on a glass was carried out using AFM (Seiko Instruments, SPA400-DFM) before and after the UV-elimination of the photolinker. We first checked the surface of a washed coverslip (Matsunami), and observed a small roughness on it (data not shown). After the photolinker was immobilized on it, the surface became a relatively smooth (Figure S1a). The result indicates that the original roughness of coverslip itself was covered with the long chain photolinkers. The QD-streptavidin was then modified onto the photolinker (Figure S1b). A large number of particles attributed to monomer and aggregates of the QD-streptavidin were observed. In contrast, the photoirradiation was carried out onto the surface for 5 min to remove the modified QD-streptavidin (Figure S1c). The result suggests that the layer consisting of QD-streptavidin-biotin was effectively removed by the UV-elimination, and that the roughness was almost the same with that of original coverslip. The small amount of QD-streptavidin still remained on the surface (The yield of its photoelimination was 92%, emerging from surface fluorescence analysis.).

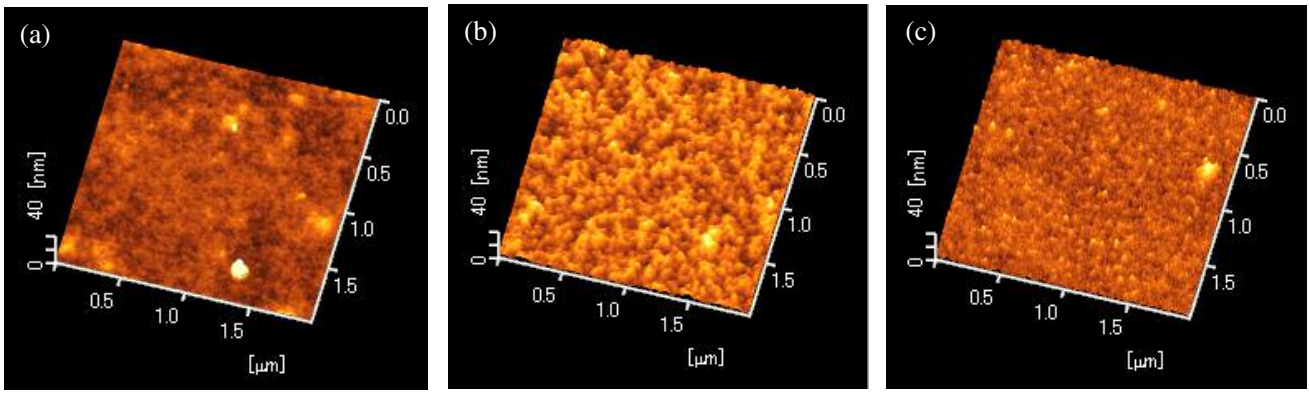

Figure S1. AFM images of (a) surface covered with photolinker, (b) quantum dot-streptavidin, and (c) surface after photoelimination of the QD-streptavidin (the irradiation of > 340-nm light for 5 min).