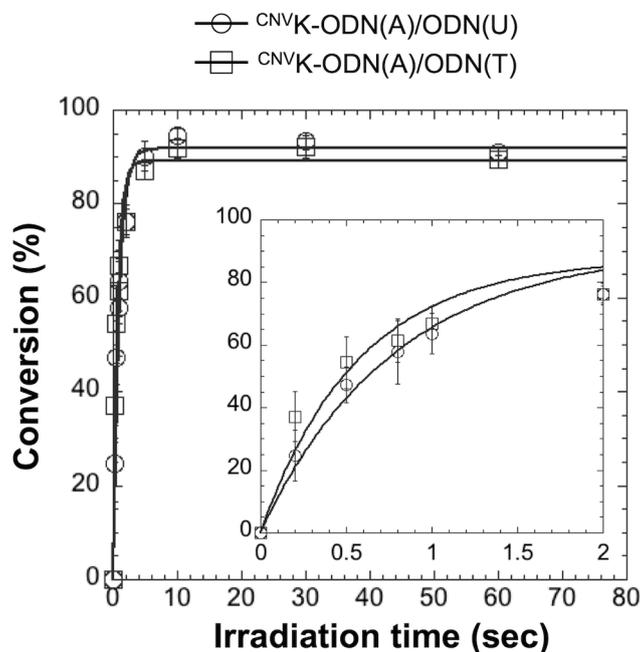
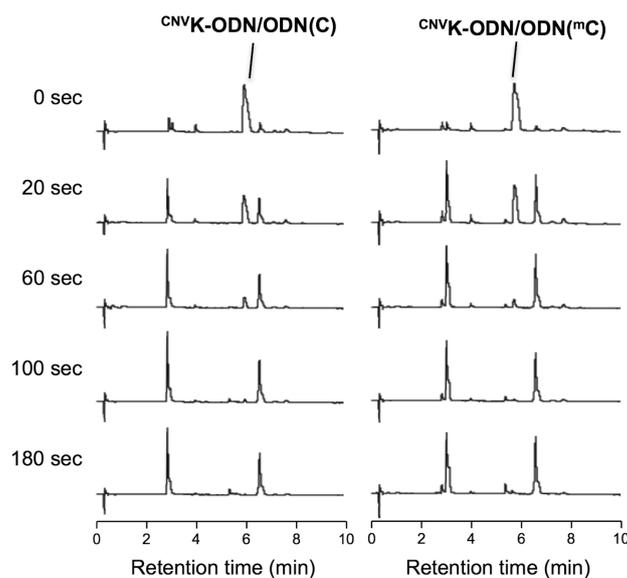


## Supplementary Information

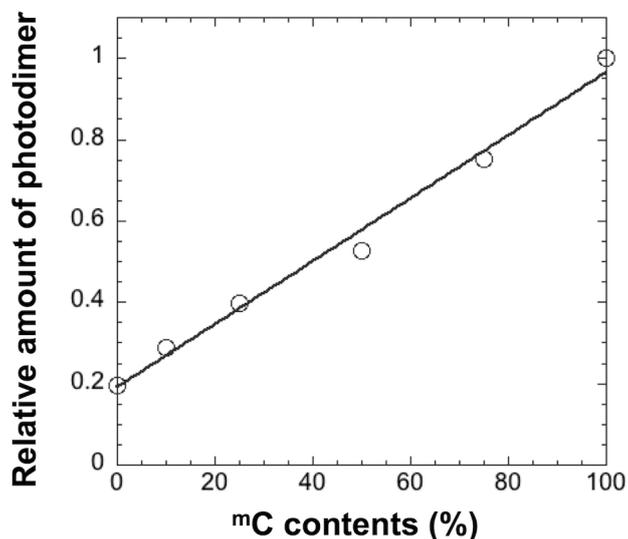
**Figure S1.** Time course of the photocrosslinking reaction between  $^{CNV}K$ -ODN(A) and ODN(U) or ODN(T) with 366 nm irradiation.  $[^{CNV}K\text{-ODN(A)}] = [\text{ODN(U) or (T)}] = 5 \mu\text{M}$  in 50 mM Na-Cacodylate buffer (pH 7.4) containing 100 mM NaCl. Photoirradiation (366 nm) was performed at 20 °C.



**Figure S2.** UPLC analysis of the photosplitting reaction of photocrosslinked CNVK-ODN/ODN (C) (left) and CNVK-ODN/ODN (mC) (right) with 312 nm irradiation.  $[CNVK\text{-ODN}] = [\text{ODN(C) or (mC)}] = 5 \mu\text{M}$  in 50 mM Na-Cacodylate buffer (pH 7.4) containing 100 mM NaCl. Photoirradiation (312 nm) was performed at 60 °C.



**Figure S3.** Relative amount of photodimer after the photocrosslinking with the various contents of mC in target ODN. [CNVK-ODN] = 2.5  $\mu$ M, [ODN(C) + ODN(mC)] = 5  $\mu$ M in 50 mM Na-Cacodylate buffer (pH 7.4) containing 100 mM NaCl. Photoirradiation (366 nm) was performed for 1 s at 20  $^{\circ}$ C.



**Figure S4.** SPR sensorgram of the hybridization between CNVK-ODN and ODN (C) (left) or ODN (mC) (right). [ODN(C) or ODN(mC)] = 0.5, 0.75, 1.0, 2.5, 4, 6, 8, and 10  $\mu$ M. Measurement were carried out at 20  $^{\circ}$ C.

