

# **SUPPORTING INFORMATION**

## **of**

# **Bioconjugation of a PNA Probe to Zinc Oxide Nanowires for Label-Free Sensing**

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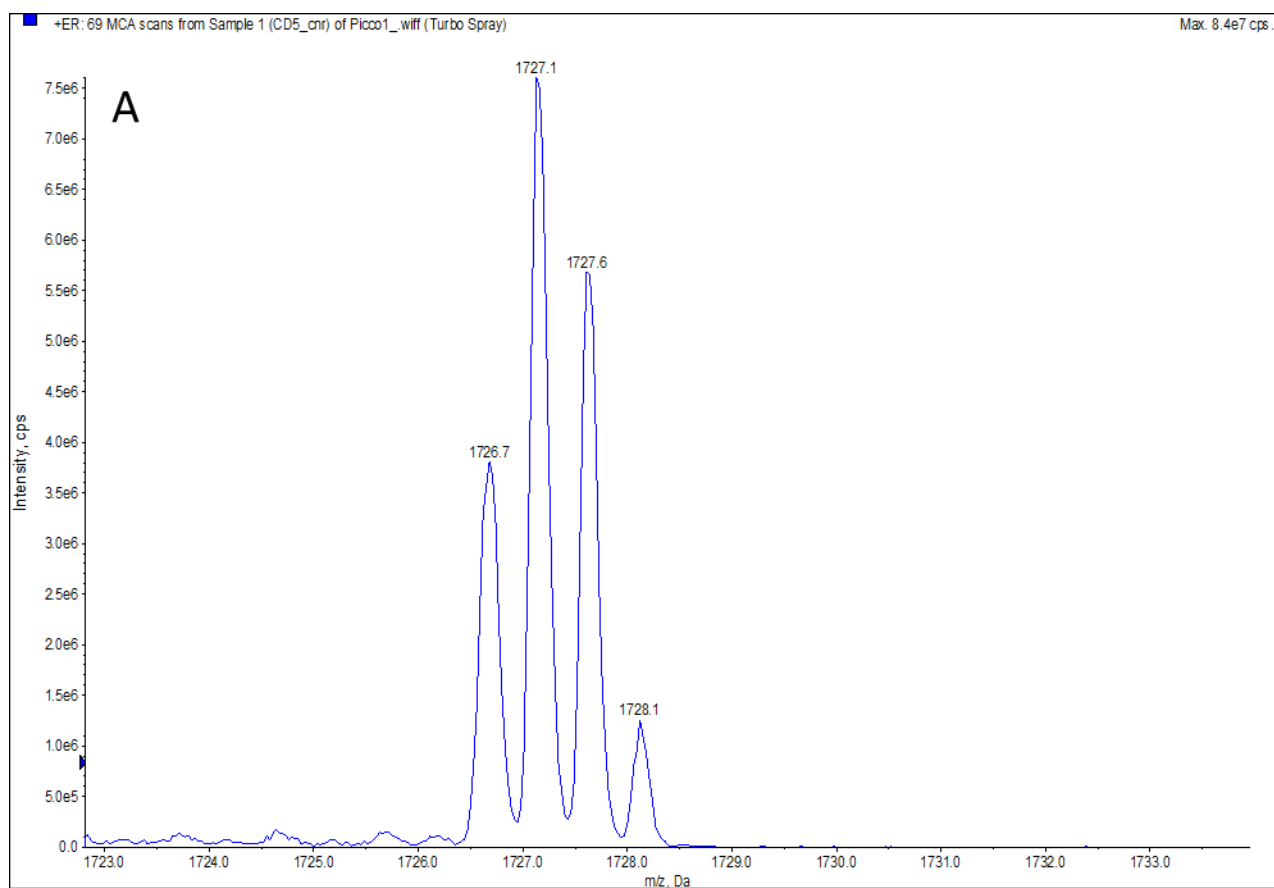
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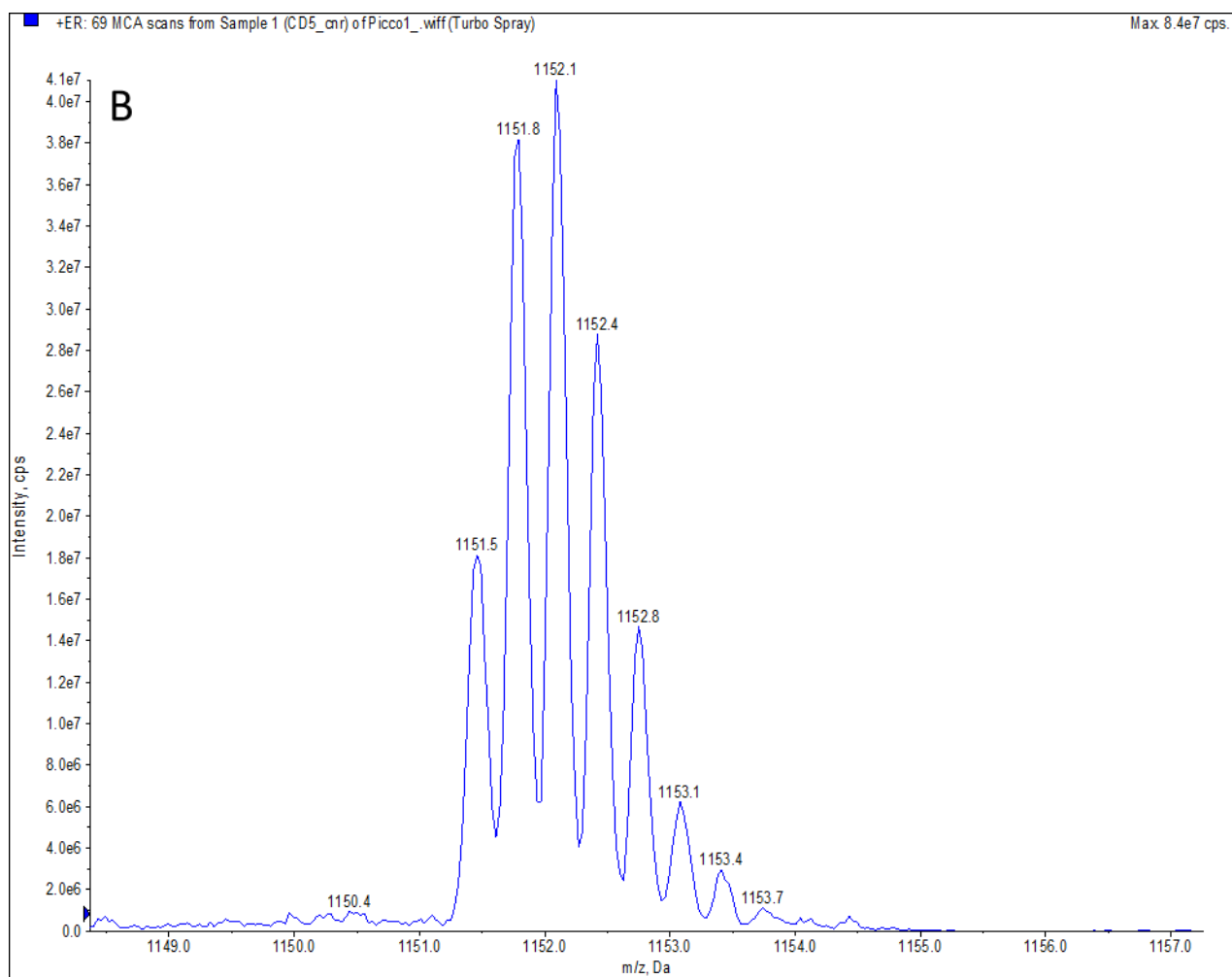
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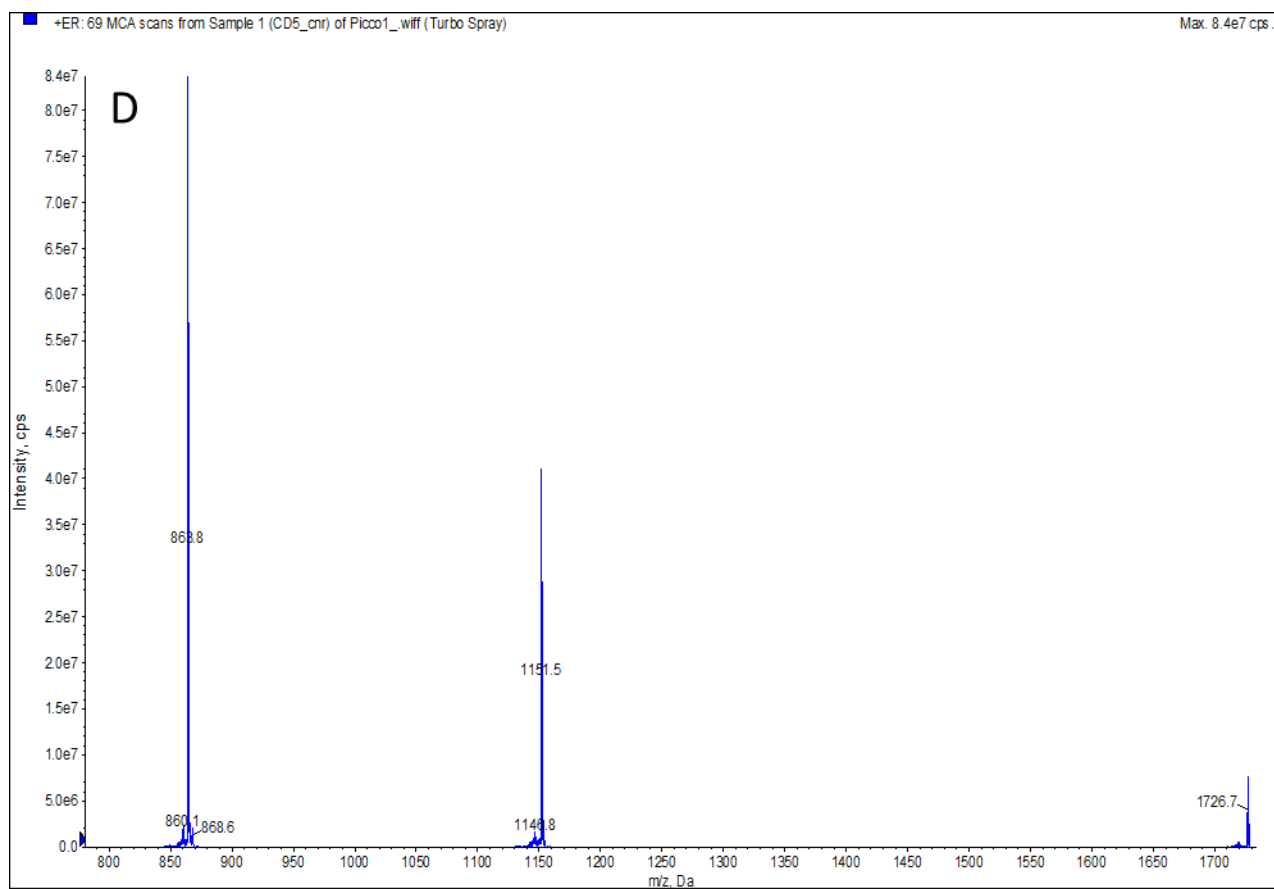
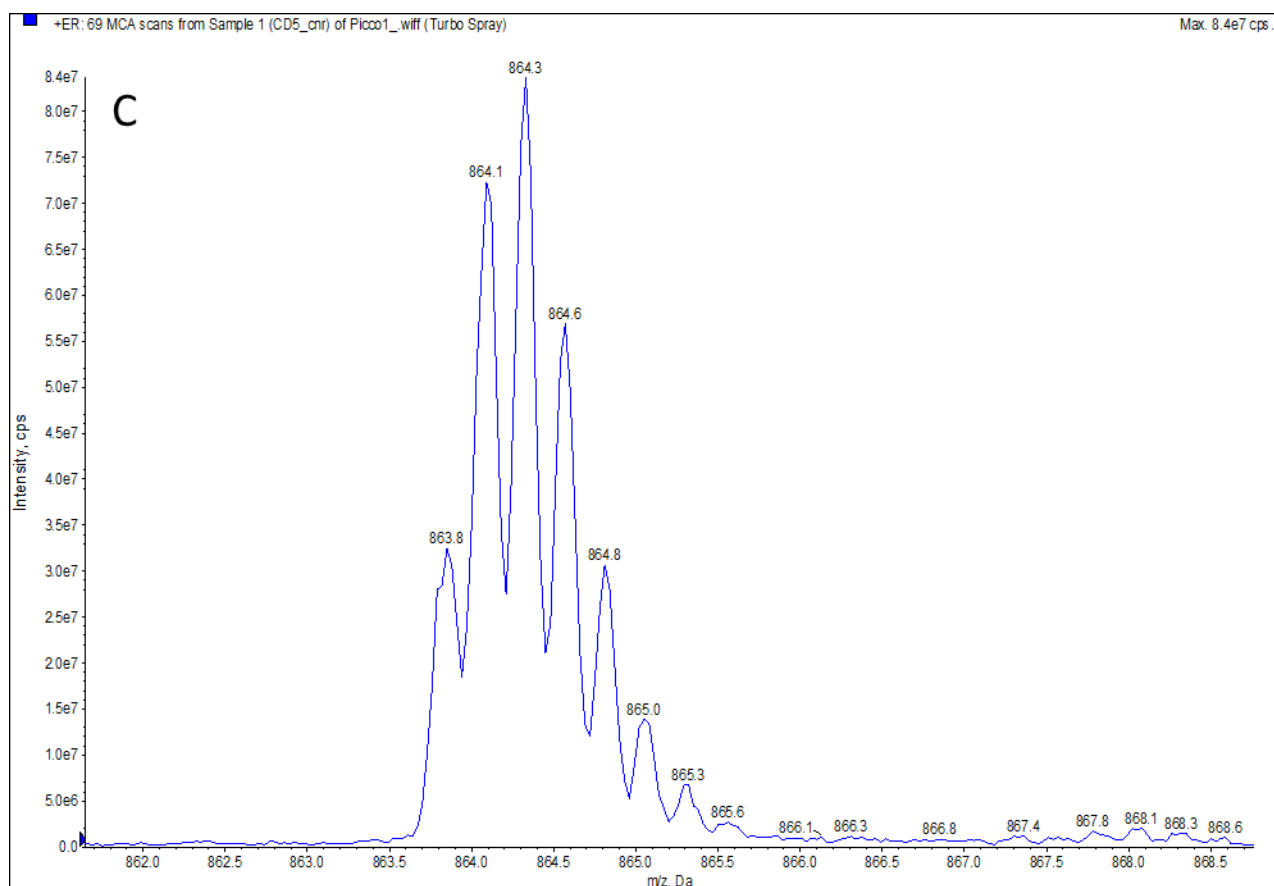
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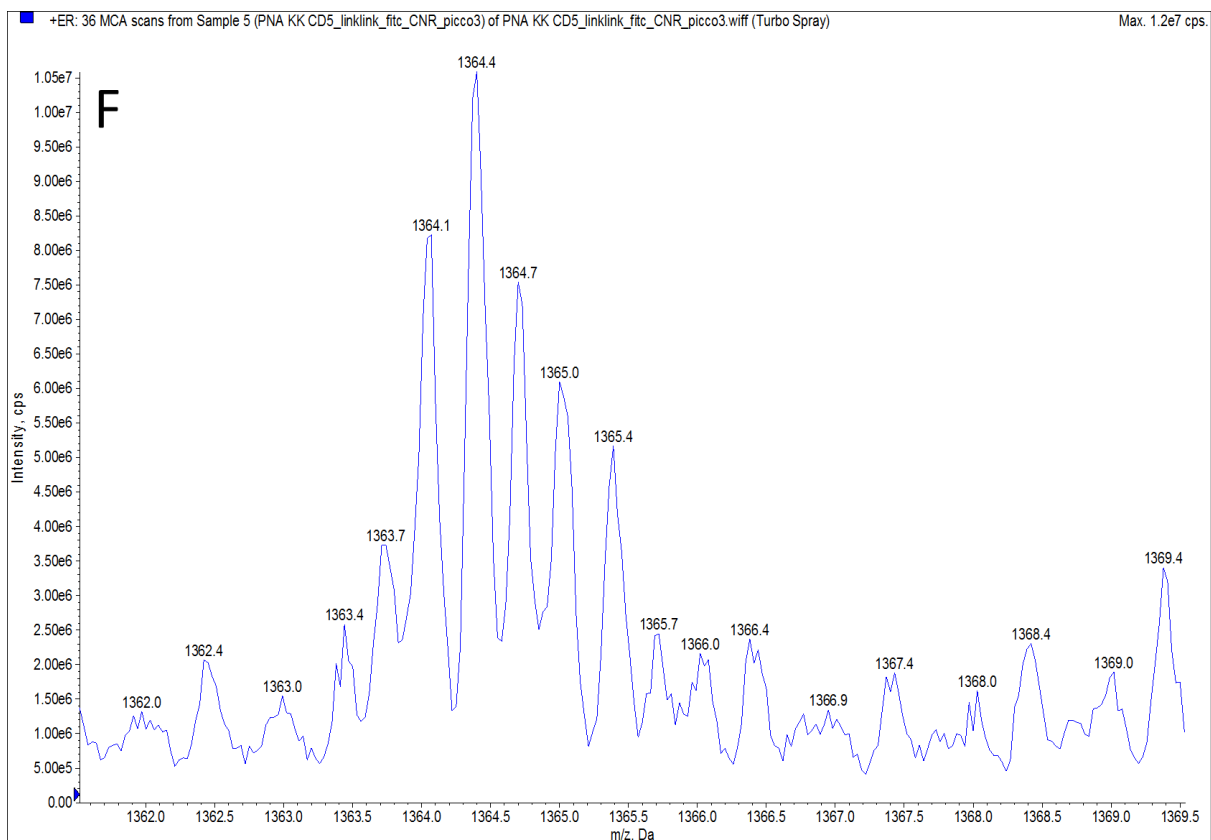
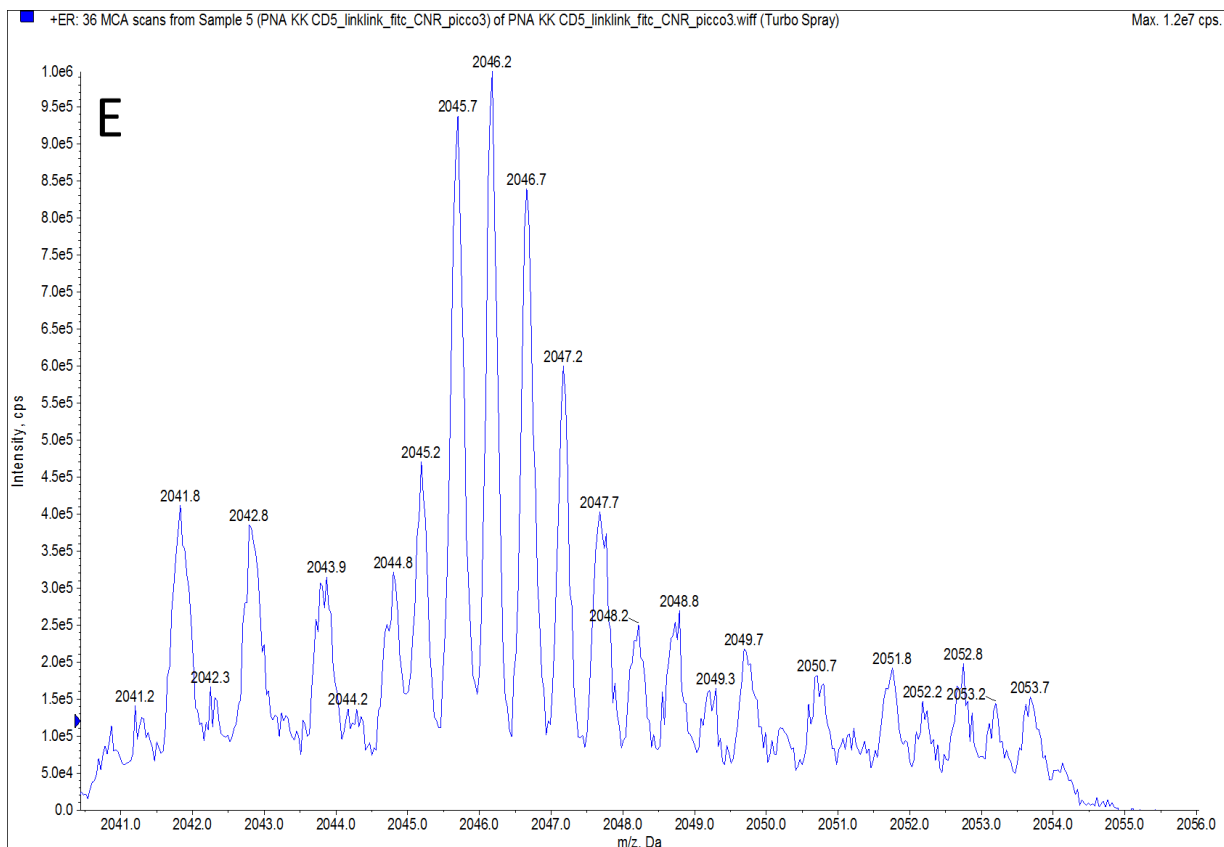
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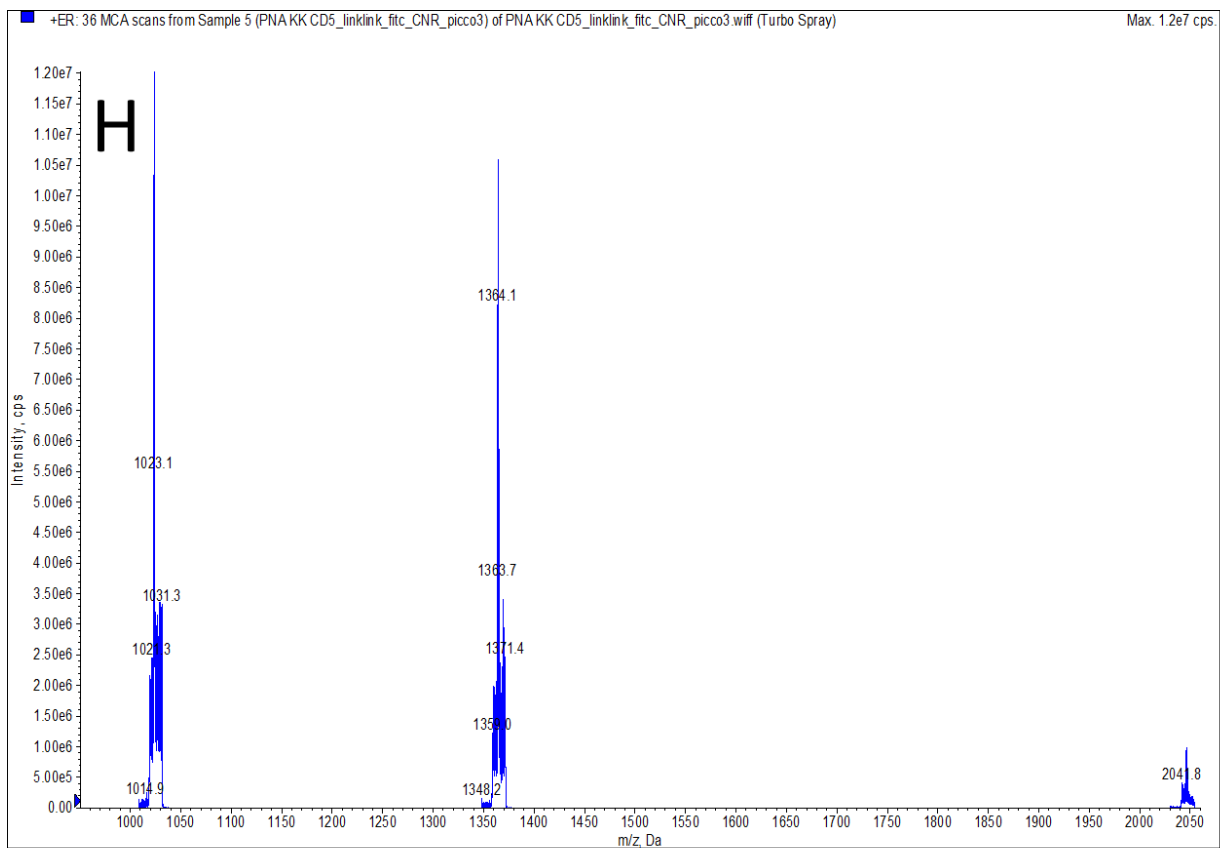
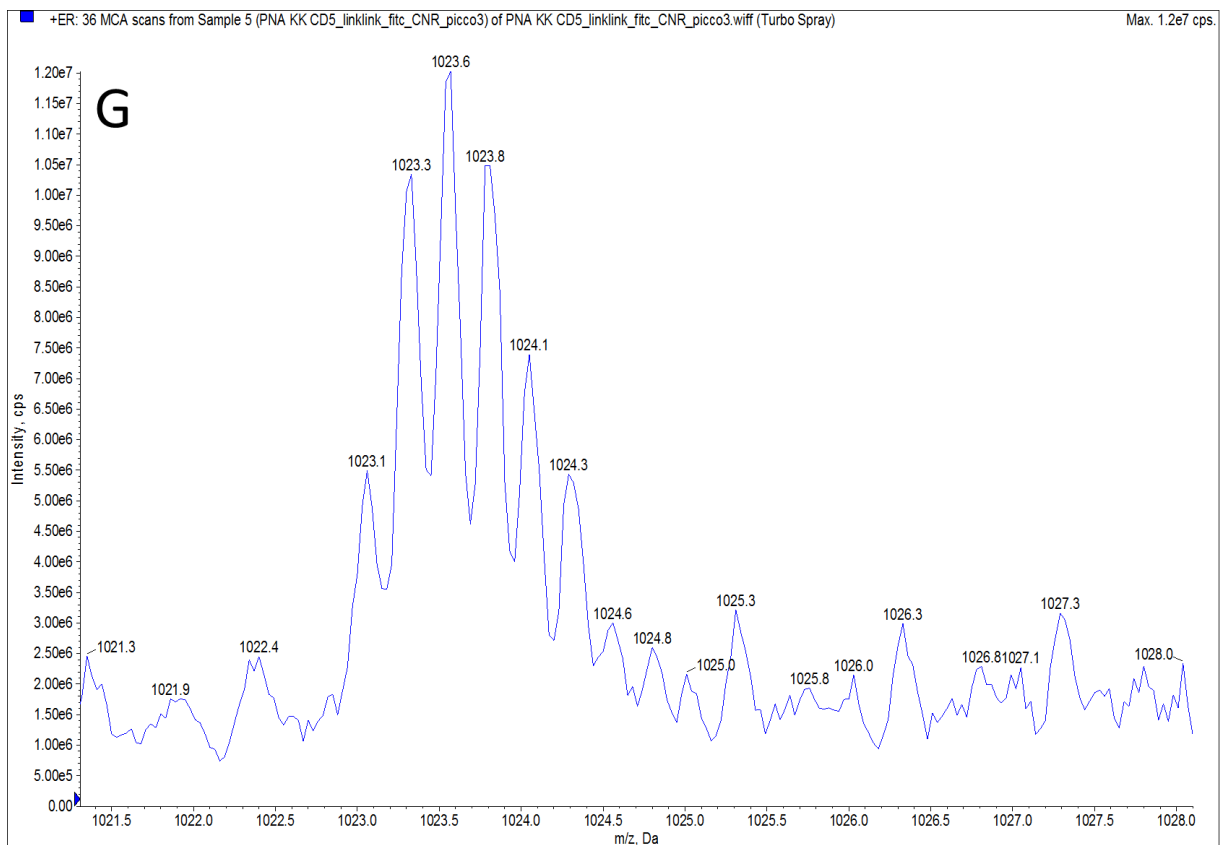
§ These authors equally contributed to this work.







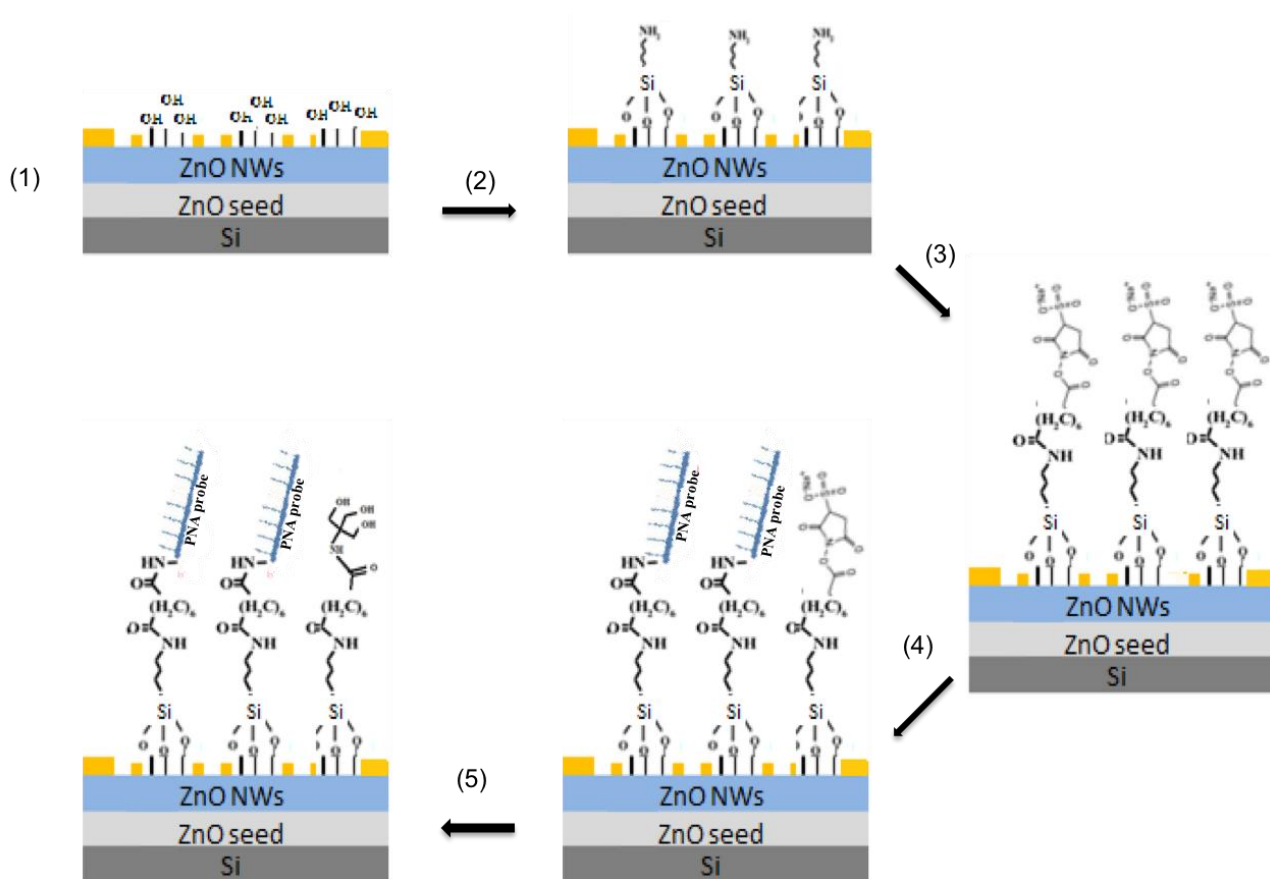




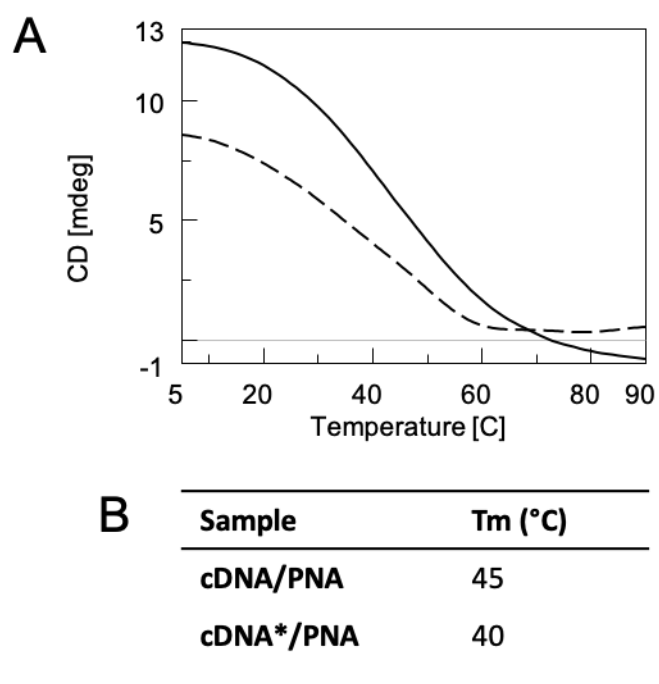
**Figure S1:** (A-D) **PNA:** Expansions of the MCA ESI-MS spectrum ( $m/z$ ) calcd. for  $[M + H]^+$  3452.46, calcd. for  $[M + 2H]^{2+}$  1726.73, found 1726.7, calcd. for  $[M + 3H]^{3+}$  1151.49, found 1151.5; calcd. for  $[M + 4H]^{4+}$  863.86, found 863.8. (E-H) **PNA\*:** Expansions of the MCA ESI-MS spectrum ( $m/z$ ) calcd. for  $[M + H]^+$  4089.64; calcd. for  $[M + 2H]^{2+}$  2045.28, found 2045.2; calcd. for  $[M + 3H]^{3+}$  1363.86, found 1363.7; calcd. for  $[M + 4H]^{4+}$  1023.14, found 1023.1.



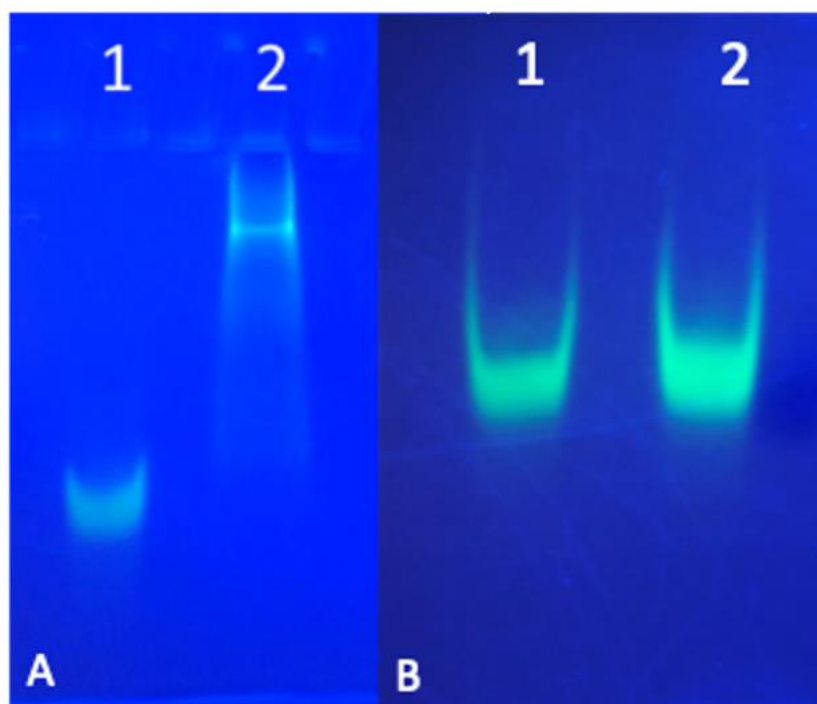




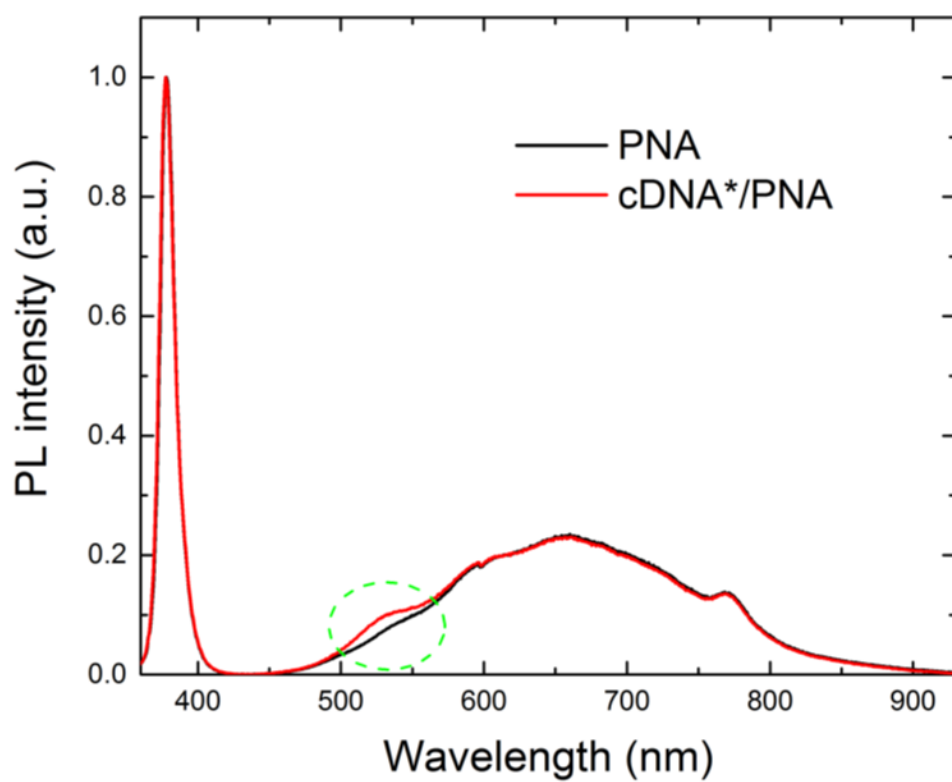
**Figure S2.** Functionalization scheme of ZnONWs surface. (1) Oxygen plasma. (2) Silanization by APTES. (3) BS<sup>3</sup> crosslinker modification. (4) PNA probe immobilization. (5) Surface passivation.



**Figure S3.** (A) CD melting profiles of **cPNA/DNA** mixture (solid line) and **cDNA\*/PNA** (dashed line) at 1:1 ratio. The curves were obtained by monitoring the absorbance at 266 nm, at a heating rate of 0.5 °C/min; (B) Table with T<sub>m</sub> values of each sample.



**Figure S4.** PAGE of **cDNA\*** (panel A) or **ctrlIDNA\*** (panel B) annealed alone (lanes 1) or with **PNA** (1:1) (lanes 2) in 100 mM PBS solution.



**Figure S5.** PL spectra of ZnONWs after PNA immobilization (black curve) and after interaction with 100  $\mu$ M cDNA\* (red line).