

Supplementary Material

PNA-based artificial nucleases as Antisense and Anti-MiRNA Oligonucleotide agents

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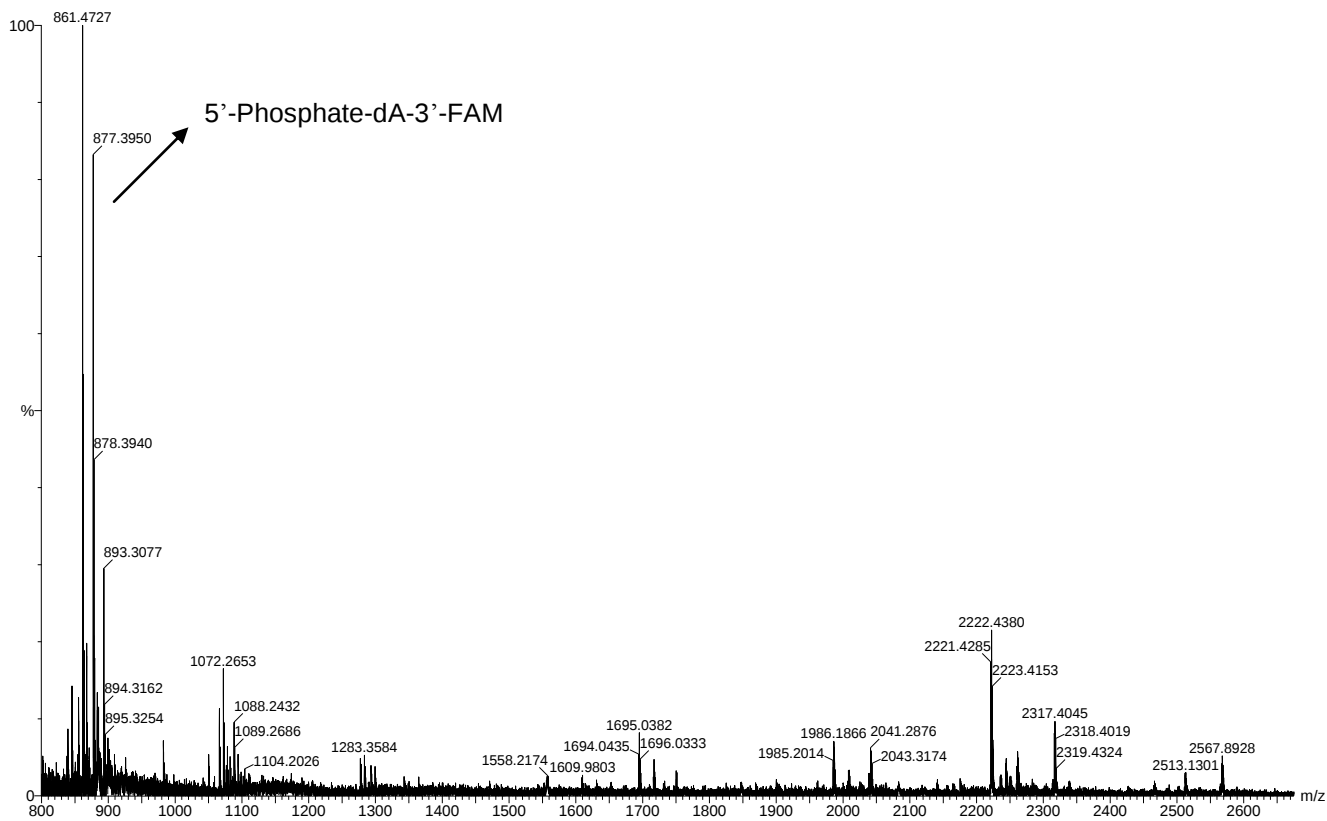
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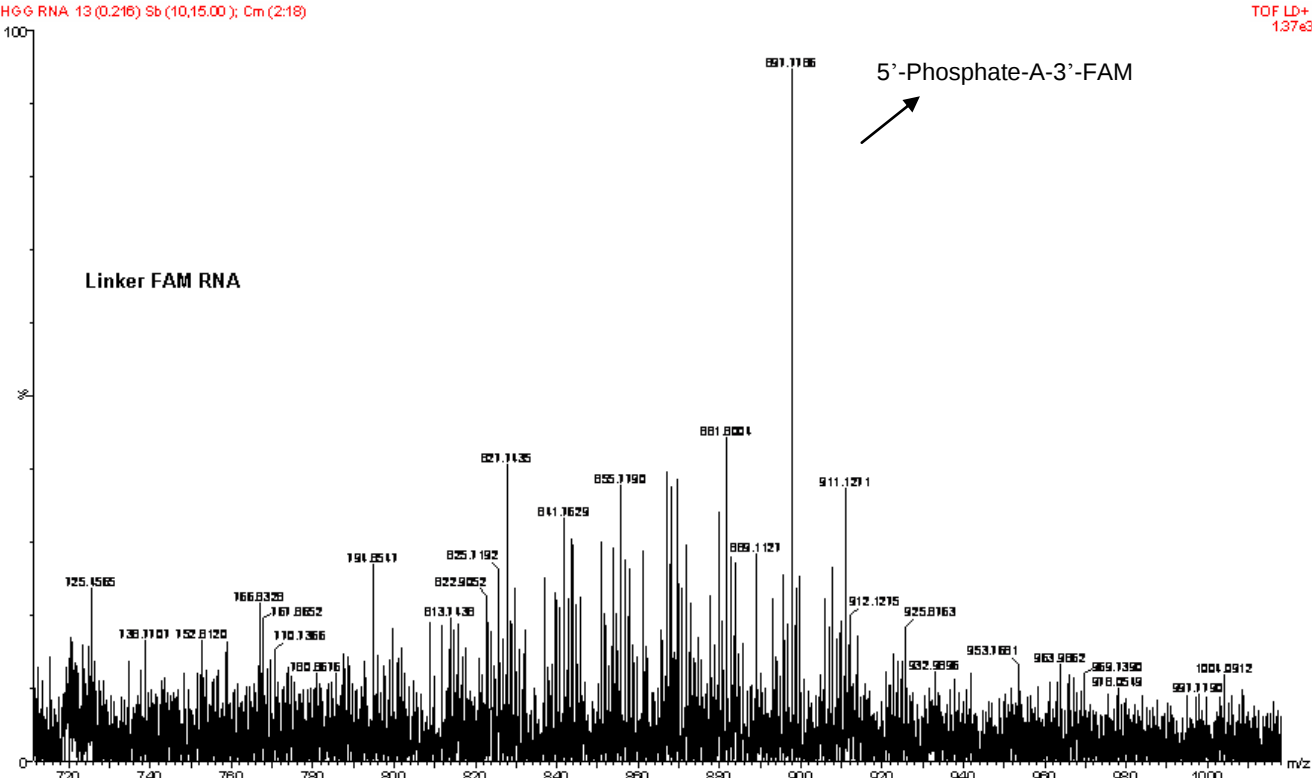
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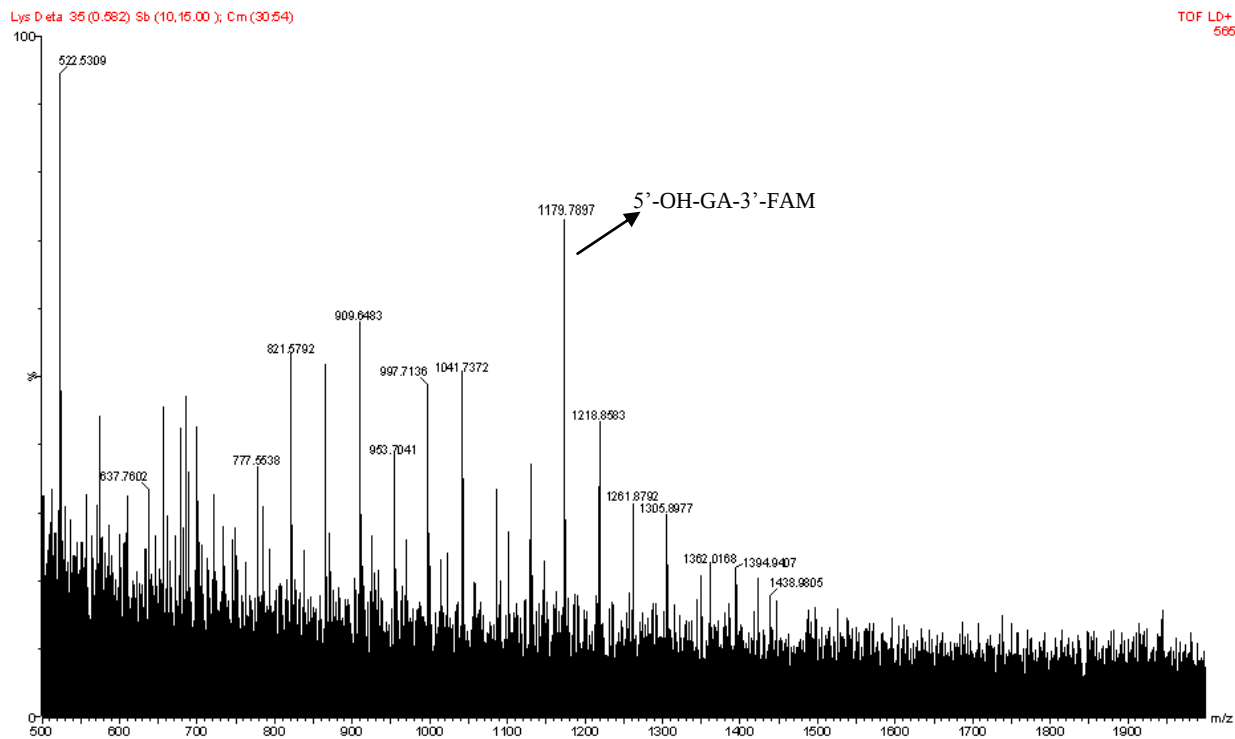
S-3. Mass spectrometric analysis of the product mixture following the conjugate A cleavage reaction performed on DNA-3'-FAM



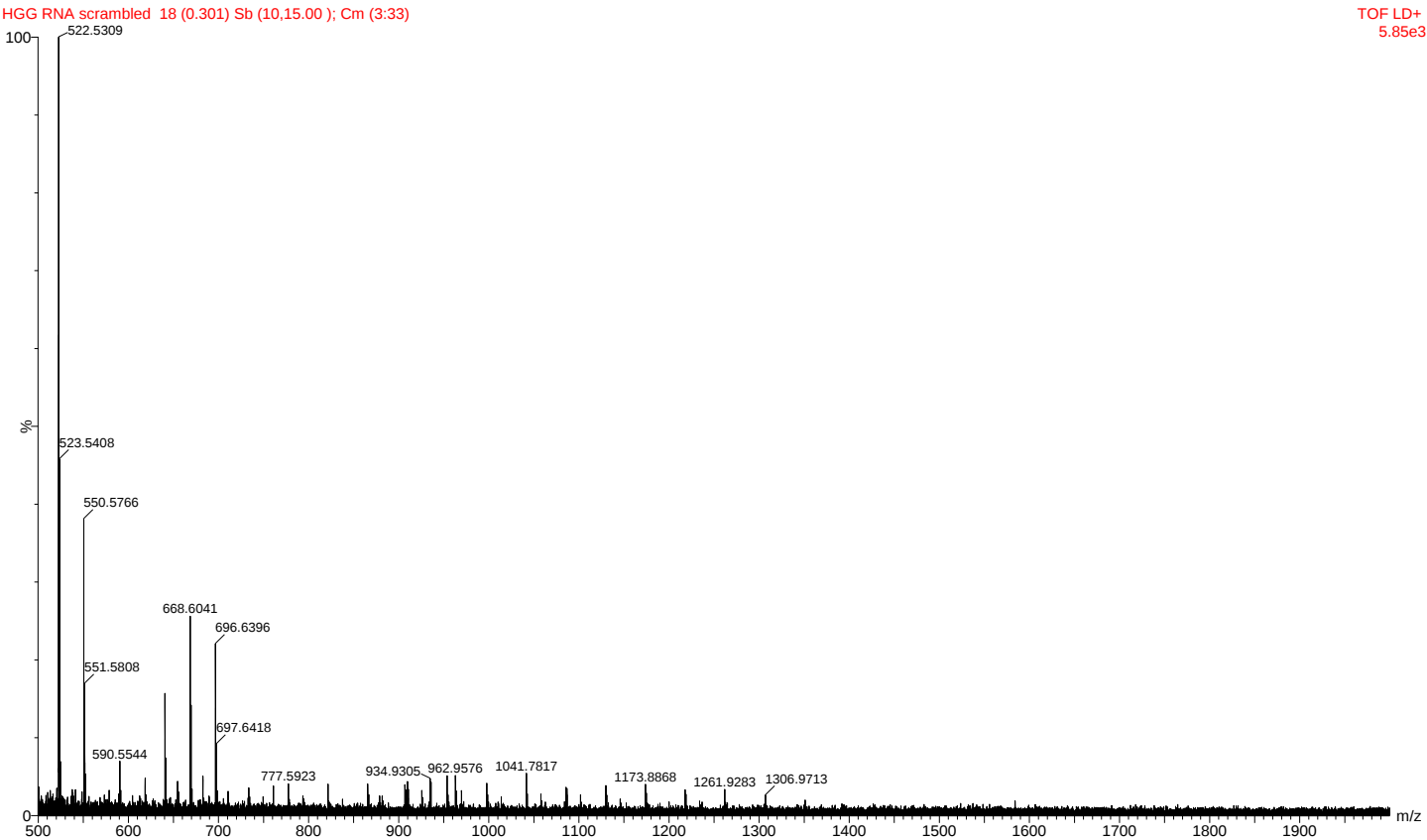
S-4. Mass spectrometric analysis of the product mixture following the conjugate A cleavage reaction performed on RNA-3'-FAM



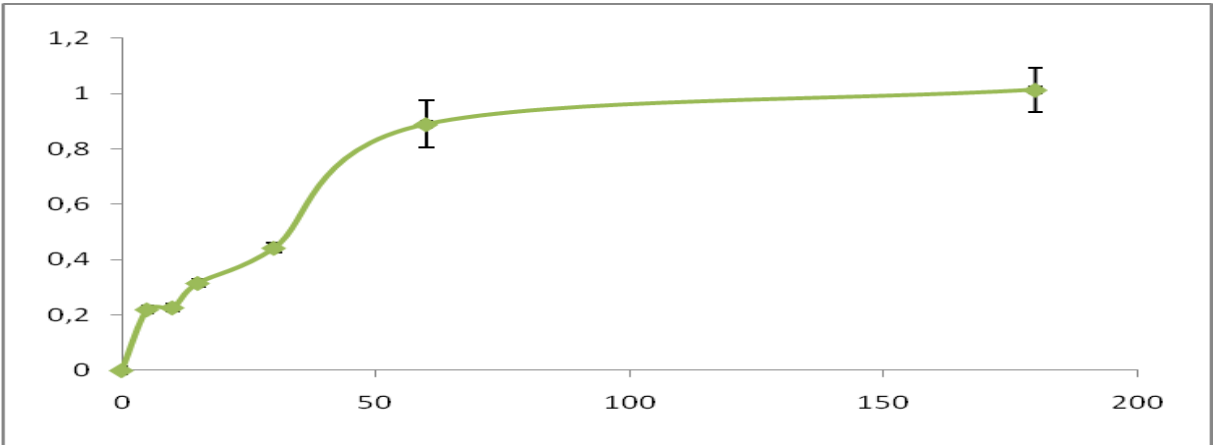
S-5. Mass spectrometric analysis of the product mixture following the conjugate B cleavage reaction performed on RNA-3'-FAM



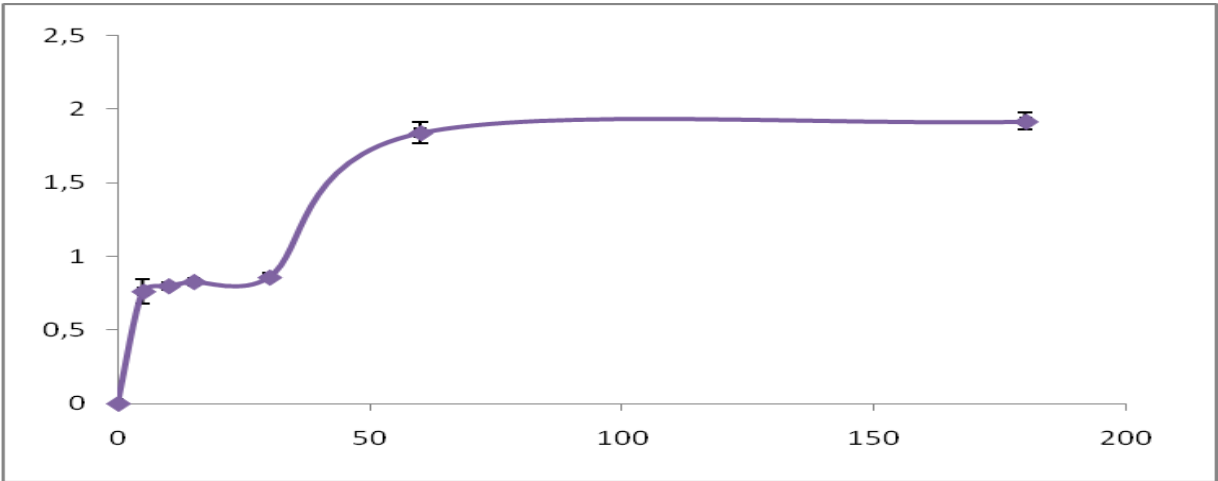
S-6. Mass spectrometric analysis of the product mixture following the conjugate E cleavage reaction performed on RNA-3'-FAM



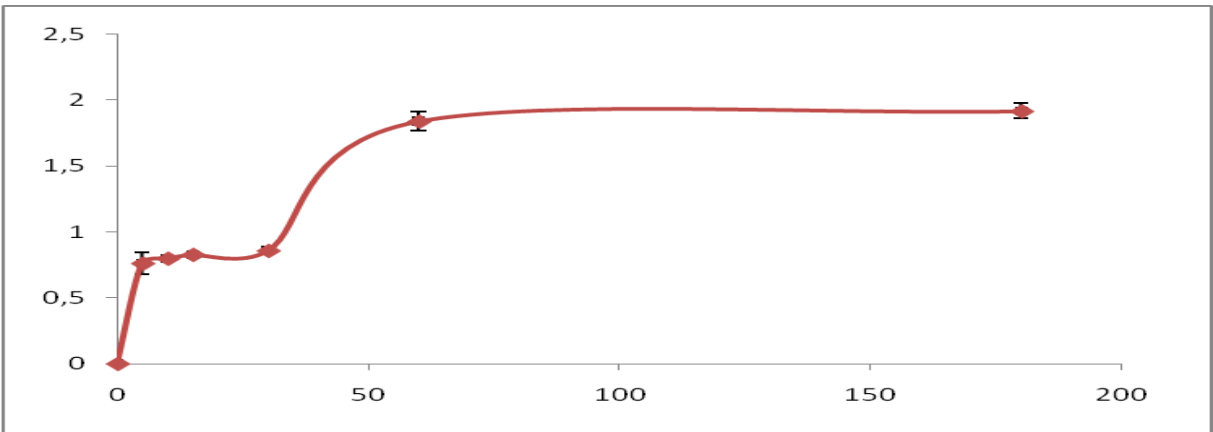
S-7. Reaction curves of nucleases A and B time course activities. Error bars indicate standard error on quadruplicate runs.



DNA/conjugate A



RNA/conjugate A



RNA/conjugate B

min

S-8. ESI-MS spectra of supernatants and precipitates of A/DNA and B/RNA cleavage reactions

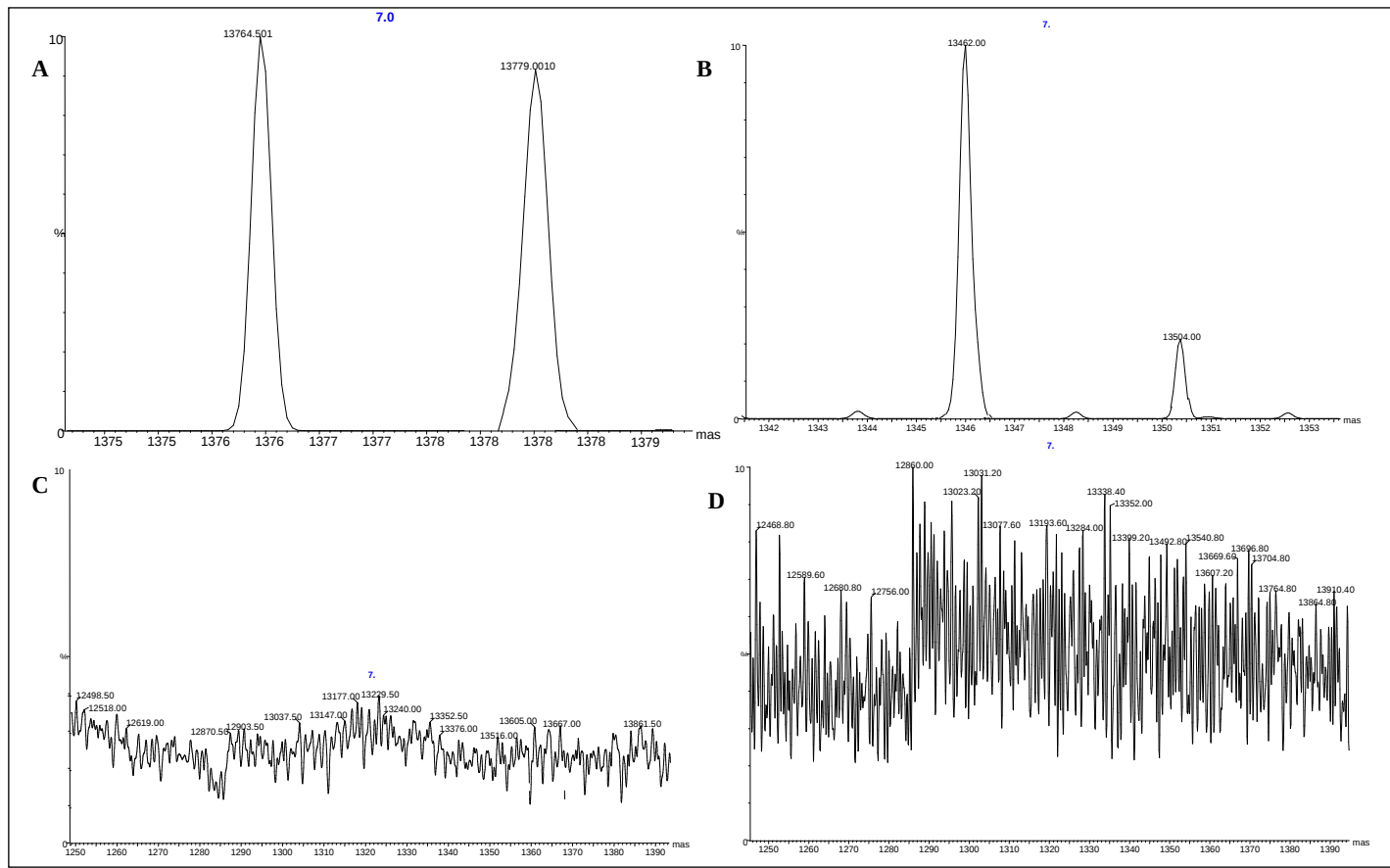


Fig. S-8. ESI/Q-TOF mass spectrometry analysis of samples following the cleavage assay. Deconvoluted mass spectra of DETA/RNA and HGG/DNA samples in the precipitate fraction are reported in A and B, respectively. The deconvoluted mass spectra of the supernatants are reported in C and D for the DETA/RNA and HGG/DNA samples, respectively.

S-9. CD spectra of RNA duplex conjugates A and B at different temperatures.

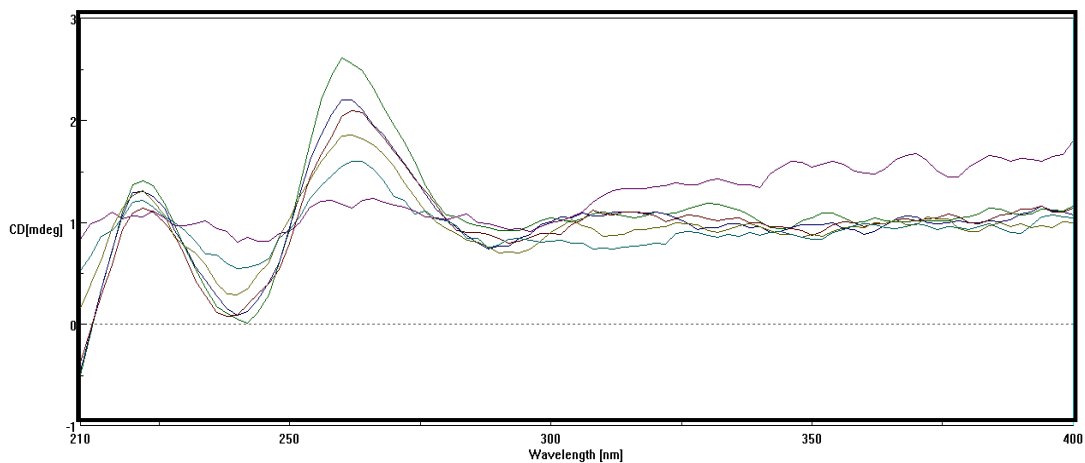


Figure S-9a: CD Spectra of 26-mer RNA/coniugate A duplex at different temperatures: 20°C (green), 37°C (blue), 50°C (red), 60°C (gold), 70°C (light blue), 83°C (purple).

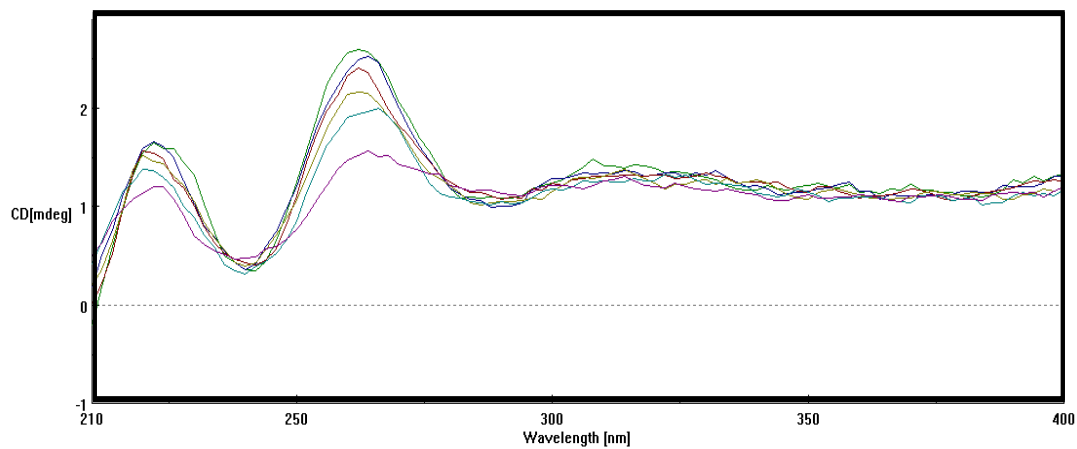


Figure S-9b CD Spectra of 26-mer RNA/coniugate B duplex at different temperatures: 20°C (green), 37°C (blue), 50°C (red), 60°C (gold), 70°C (light blue), 83°C (purple).