



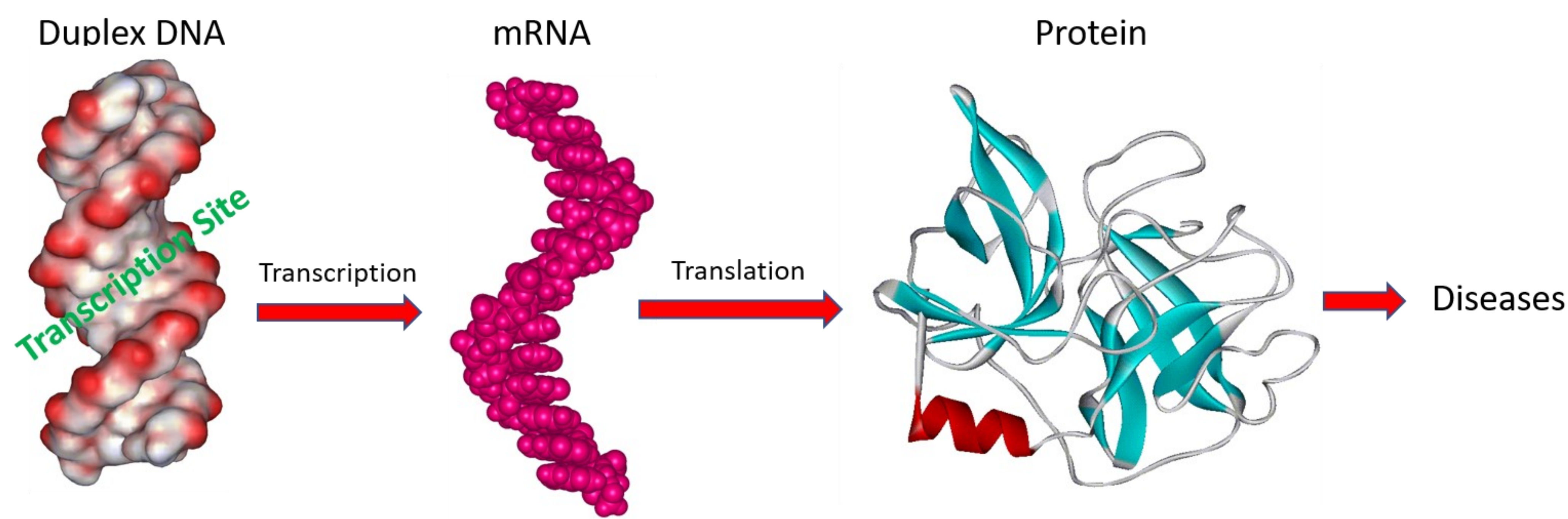
# Discovery of Novel Triplex DNA Binding Ligands

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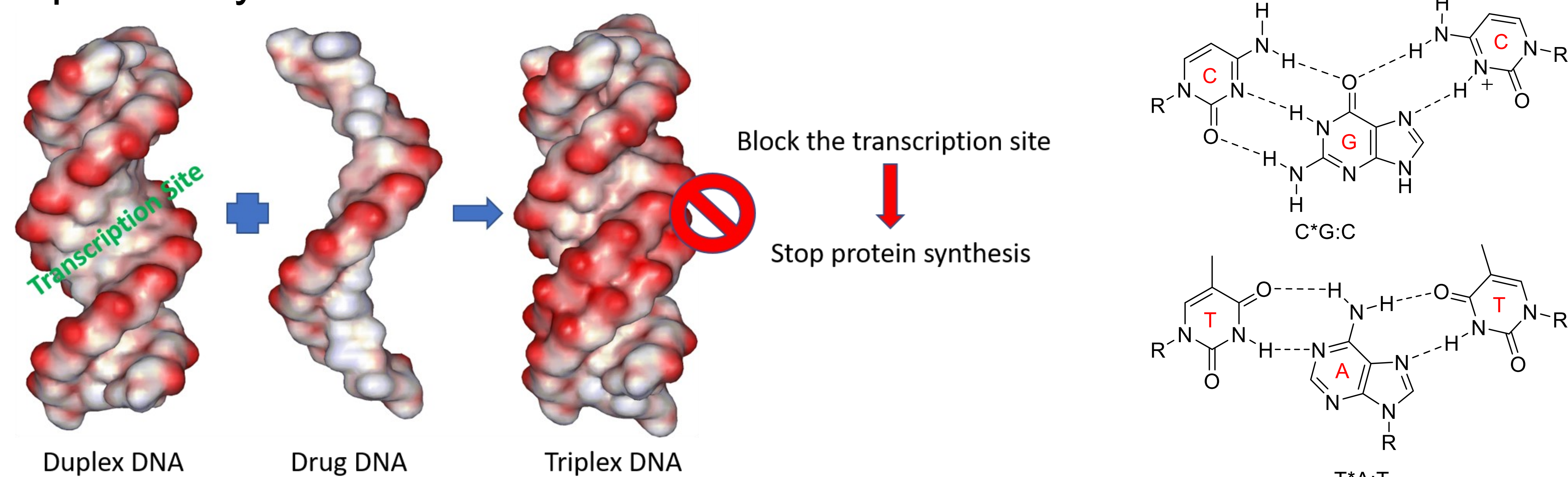
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## Why triplex DNA?



Blocking the transcription site in duplex DNA can stop abnormal protein synthesis.

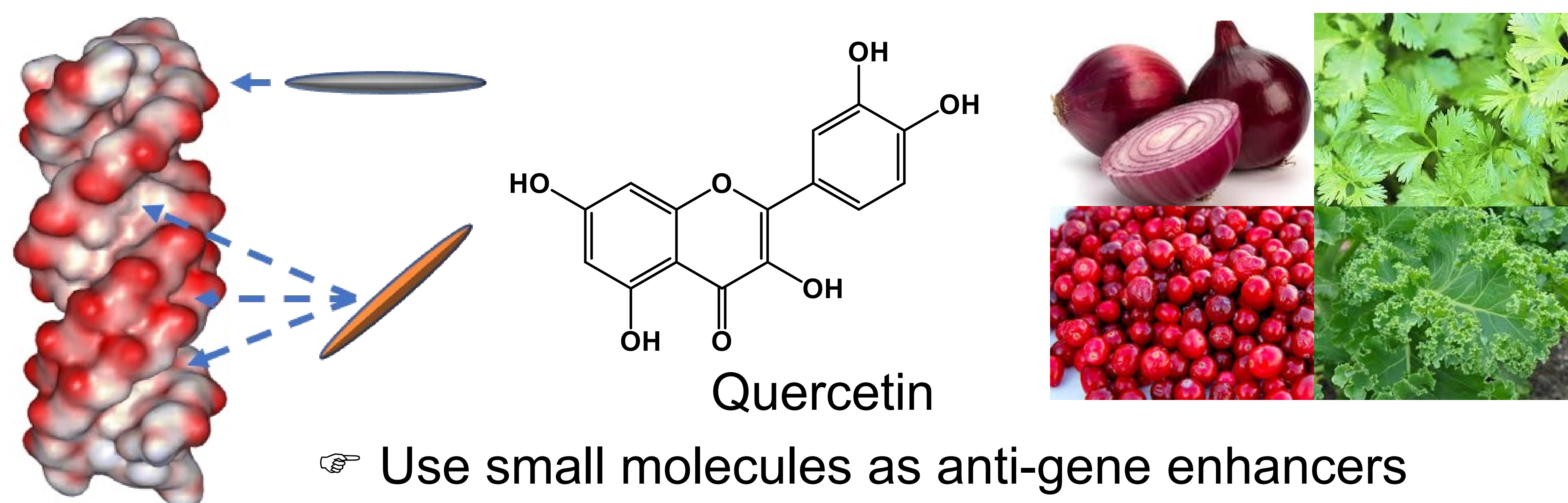


A short DNA strand can sequence specifically target a duplex DNA in the major groove and thus block the enzyme binding.

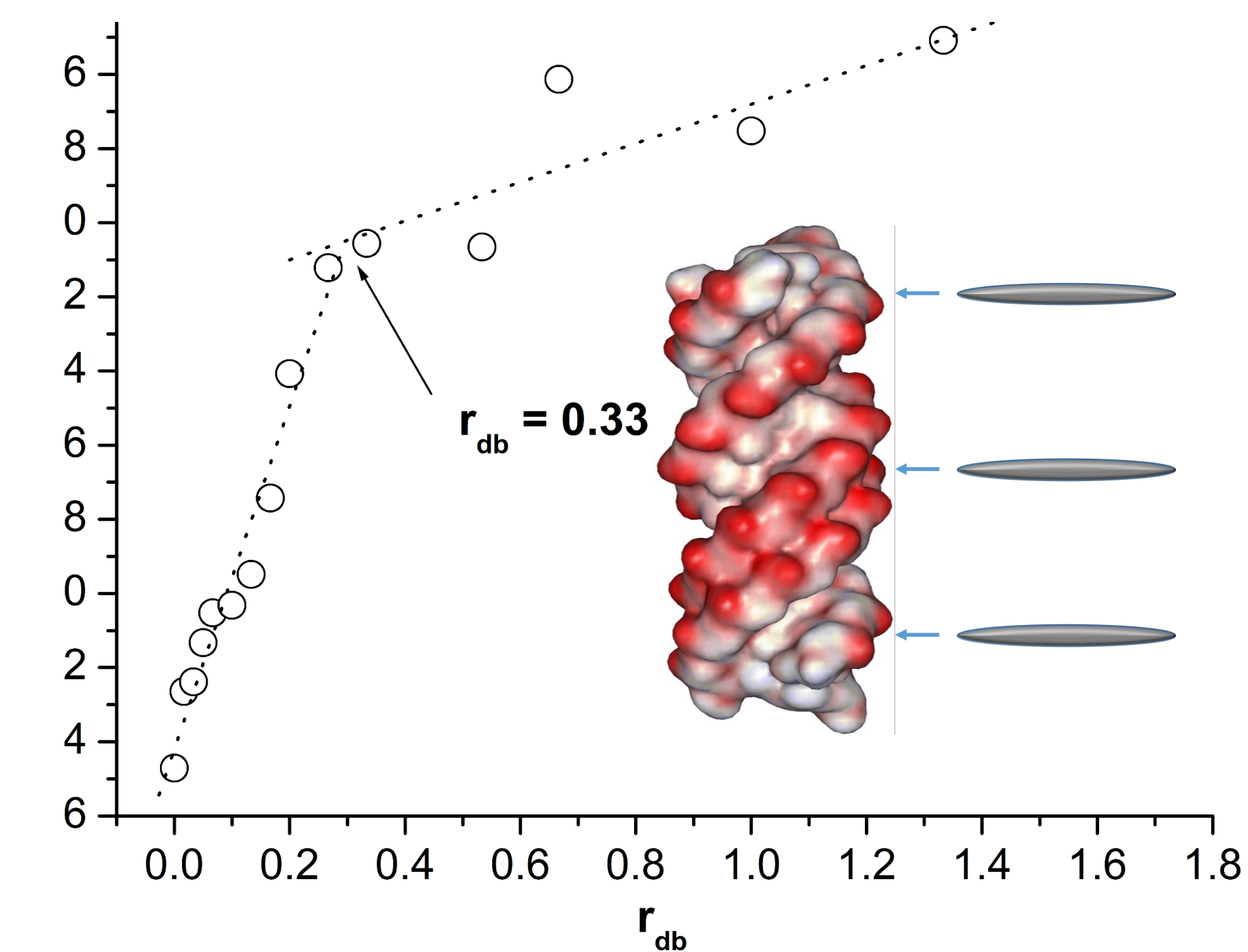
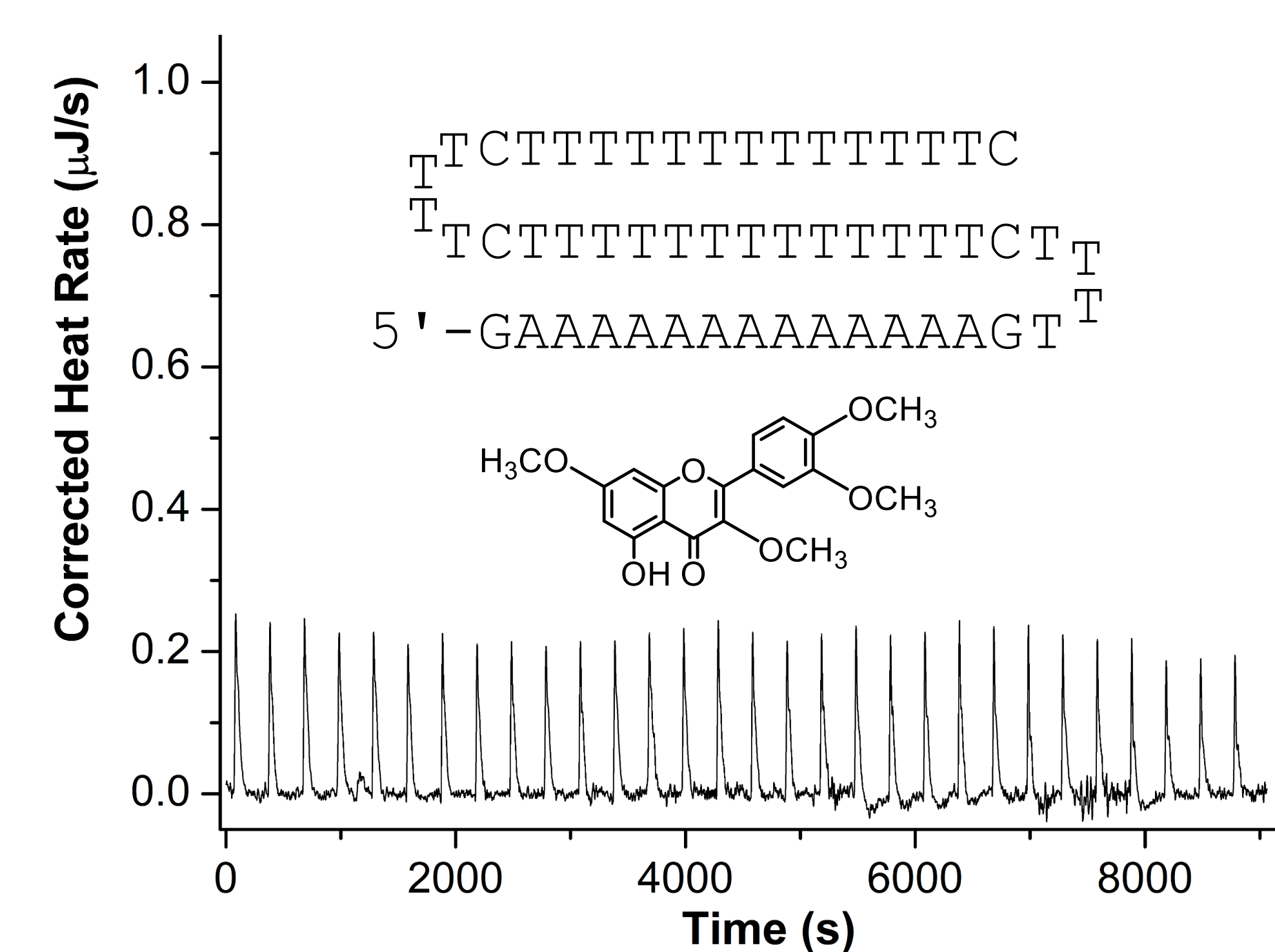
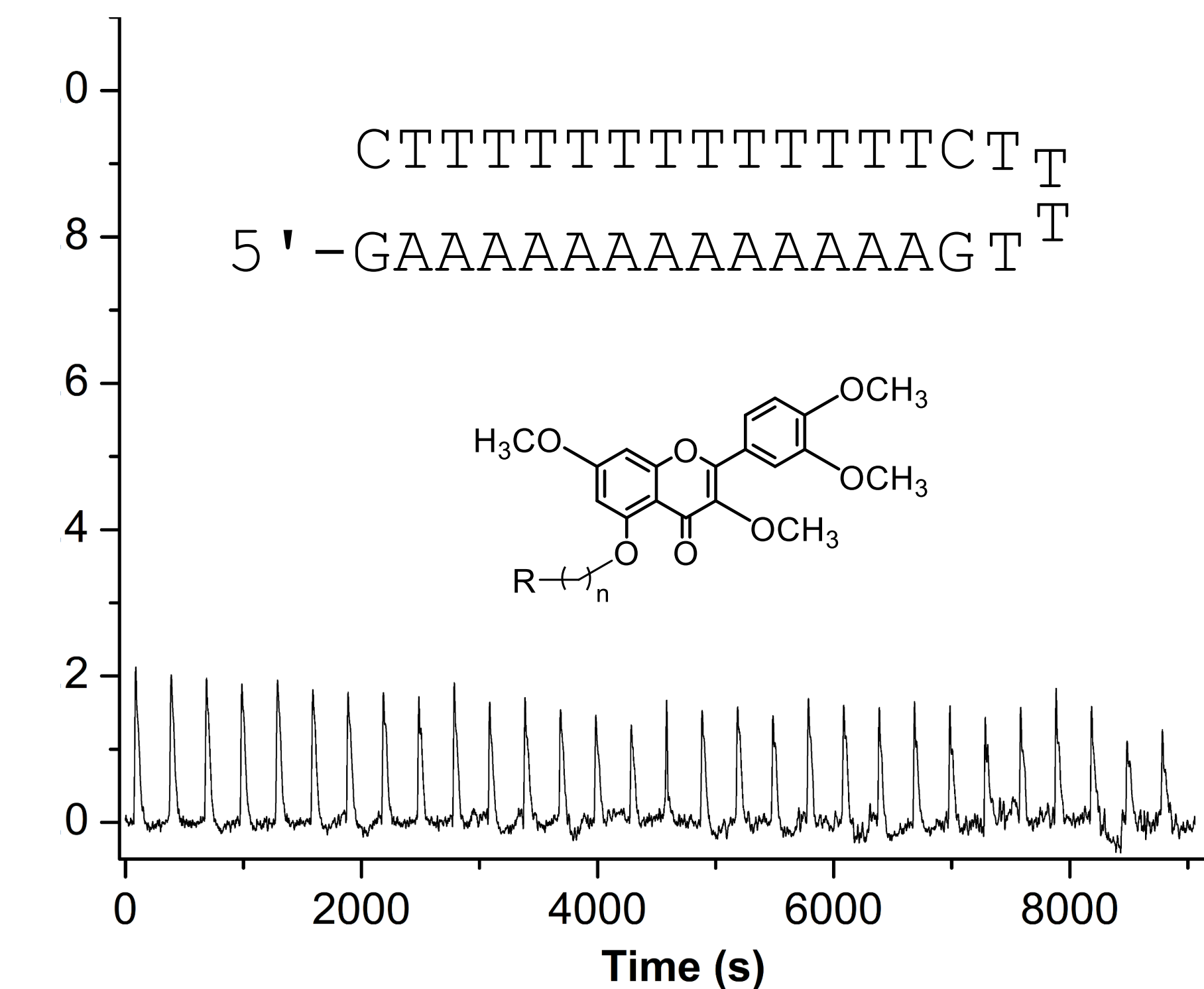
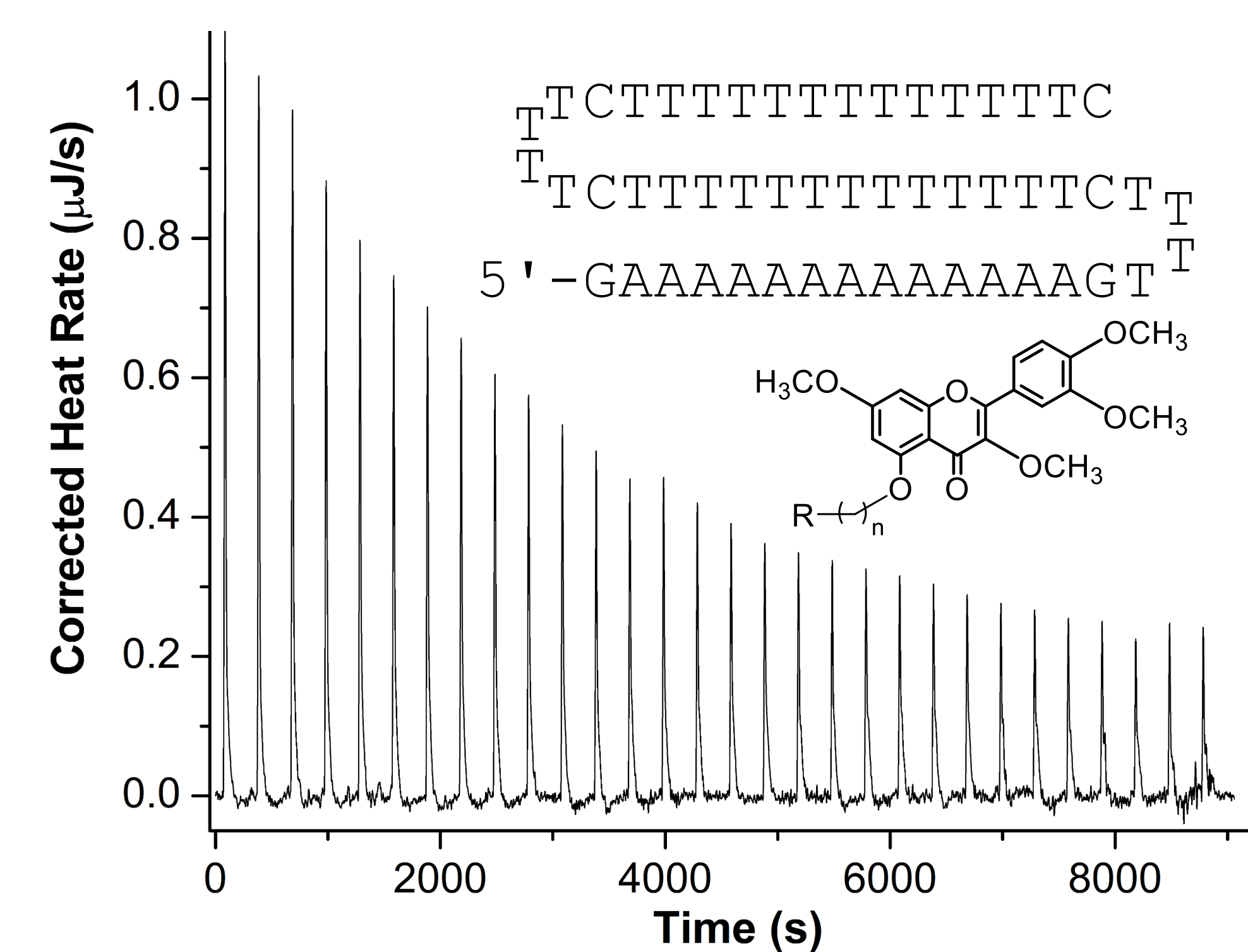
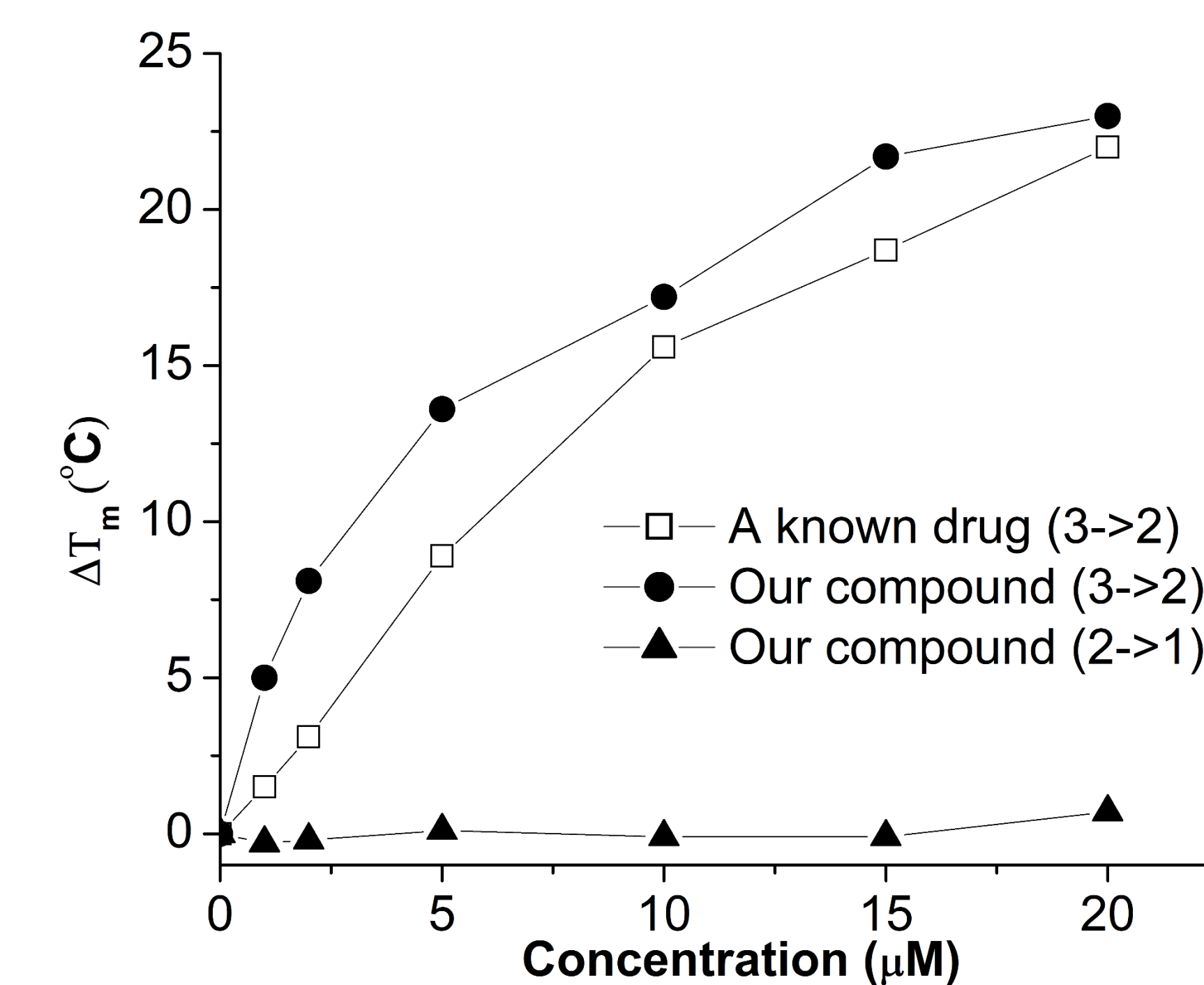
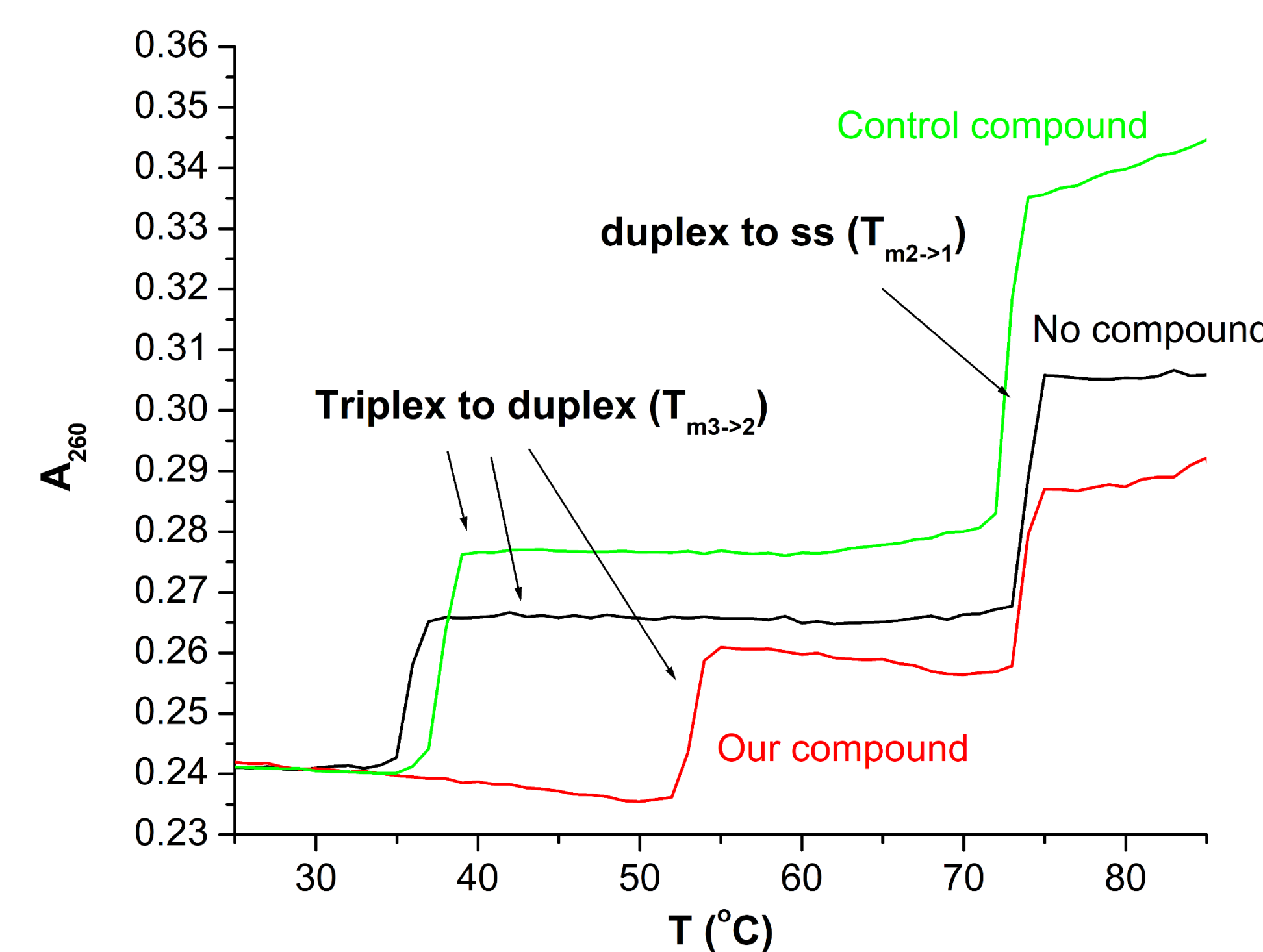
## Problems in this field?

- Slower formation rate (3-4 orders of magnitude) than that of duplex
- Less stable than their duplex counterparts under physiological conditions

## A promising solution



## Can quercetin derivatives bind to triplex DNA? Is the binding specific? What is the binding mode?



Derivatives bind to triplex DNA and have no effect on duplex DNA. Without modification, quercetin cannot bind to triplex DNA. One derivative bind to three base triplets in a intercalative binding mode.

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