

PEPTID NUCLEIC ACIDS FOR ULTRA-FAST CLICK AND RELEASE REACTIONS



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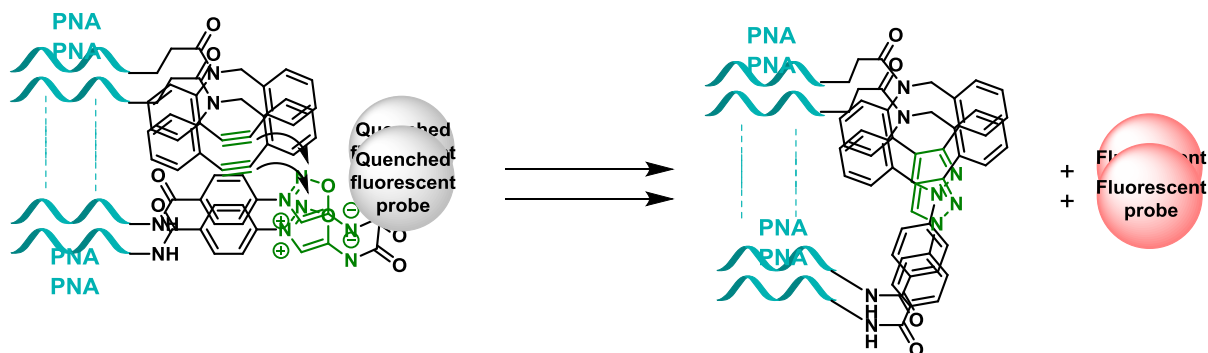
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Biorthogonal click and release reactions are interesting new tools allowing the selective release of compounds of interest in biological media, including inside animals¹. Our laboratory has recently discovered the reaction between iminosydnonones and strained alkynes leading to two products resulting from ligation and fragmentation of iminosydnonones under physiological conditions². In this work, we designed complementary Peptid Nucleic Acids (PNAs) to increase the kinetic of this click and release reaction. Each reaction partner is attached to a PNA and the molecular recognition between the PNAs was found to induce huge enhancement of the reaction speed. Several couples of complementary PNAs were synthesized to determine optimal PNA size. Kinetics were determined by monitoring the release of a fluorescent probe. With molecular recognition, the reaction becomes a pseudo first order, making the kinetic nondependent of the concentration which opens up numerous application perspectives.

Keywords: PNA; click and release; kinetic.



References

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