

## Utilizing DNA as a diluent to help resist non-specific adsorption in an electrochemical peptide-based sensor for the detection of p24 antibodies

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A major problem for many sensors today is non-specific adsorption of proteins and other macromolecules, creating false positive and false negative results. In this work, short oligonucleotides were added to the self-assembled monolayer (SAM), creating a negatively charged layer that helped to resist adsorption. Utilizing an immunodominant epitope from the HIV-1 p24 protein, the authors were able to detect correct antibodies in the presence of random antibodies as well as in the presence of complex matrices. With the addition of the short oligonucleotides to the SAM, the detection of correct antibodies became more sensitive as opposed to the absence of the oligonucleotides. These results suggest that this could be a widely used platform, which the authors will apply to other developed sensors.

### Biography

Anita J. Zaitouna is working on completing her Ph.D. with Dr. Rebecca Y. Lai, where she has learned about electrochemistry, biosensors, and other characterization techniques. Upon completion of her Ph.D., she plans on furthering her career with a post-doctoral position.

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