

Abstract Submitted
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Development of a 2D Photonic Crystal Biosensing Platform

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The importance of early disease diagnosis both for initiating successful clinical treatment and preventing disease transmission continues to propel the development of rapid, ultrasensitive, label-free biosensors. Sensors that implement two-dimensional photonic bandgap crystal structures, in particular, have demonstrated the potential to achieve single-pathogen detection. To reach such high sensitivity, the architecture of the photonic crystal must be designed in a way that pathogen infiltration events are evident in the optical transmission spectrum of the crystal. Computational modeling results are useful both when designing an appropriate photonic crystal geometry and when interpreting experimental observations. Results of ongoing work are presented.

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