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Sequence-specific sepsis-related DNA capture and fluorescent labeling in monoliths prepared by single-step photopolymerization in microfluidic devices

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Highlights

- DNA capture monoliths were formed by a single-step process in a microchip
- The monoliths had better characteristics than ones made by a multistep procedure
- Unlabeled DNA related to sepsis was captured, labeled and eluted
- DNA capture was feasible from lysed bacteria enriched from blood samples

Abstract

Fast determination of antibiotic resistance is crucial in selecting appropriate treatment for sepsis patients, but current methods based on culture are time consuming. We are developing a microfluidic platform with a monolithic column modified with oligonucleotides designed for sequence-specific capture of target