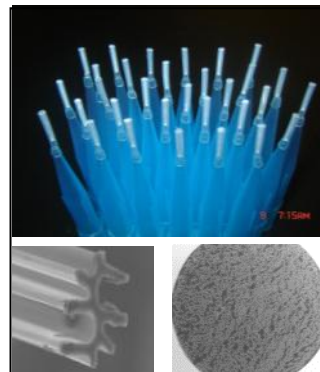


Capillary Channel Polymer Fiber Spectroscopic Probes for Low-cost Point-of-Use Diagnostic Applications

Description:

This low-cost, user friendly technology could have significant impact within research labs, clinical labs, and third world diagnostic initiatives. This invention uses specific type of capillary channel polymer (C-CP) fibers called 4DG™ fibers¹, which exhibit superior fluid-wicking properties making them ideal for biotechnology applications. Novel spectroscopic probes were designed and constructed using these fiber bundles functionalized and coated for specific interactions to enable highly sensitive and specific analysis of minute volumes of fluid for the application of low-cost point-of use diagnostics in the laboratory or clinical setting.

The demonstrations performed to date include on-fiber mRNA analysis, antibody/antigen interaction, and protein-protein interactions. By tuning the fiber surface chemistry, many more applications are possible.



Note: [CURF Ref No 02-003](#) is a directly related technology.

Applications:

- Capture and on-fiber mRNA quantification
- Immunoassays
- Protein-protein interactions

Benefits:

- Low cost materials
- Steam sterilization
- Quick, on-probe detection
- Variety of applications (variety of sample types & disease/conditions)
- Minimal sample volume
- Minimal technician training

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Protection Status:	Patents issued; # 7,261,813 and # 7,740,763
Licensing Status:	Available for licensing
Additional Terms:	Analytical Tools / Instrumentation, Diagnostics / Sensors, Fibers & Films
CURF Ref No:	05-025

¹These patented 4DG™ fibers are part of a patent portfolio donated by Eastman Chemical to Clemson University.