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(54) **ASSAY CARTRIDGES AND METHODS OF USING THE SAME**

**Related U.S. Application Data**

(76) Inventors: **Eli N. Glezer**, Chevy Chase, MD (US); **Jonathan K. Leland**, Silver Spring, MD (US); **Mark A. Billadeau**, Knoxville, MD (US); **Joseph M. Leginus**, Silver Spring, MD (US); **Bandeje Jeffrey-Coker**, Darnestown, MD (US); **Jeff D. Debad**, Gaithersburg, MD (US); **Koustubh A. Phalnikar**, Gaithersburg, MD (US); **Sriram Jambunathan**, Jersey City, NJ (US)

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(57) **ABSTRACT**

Assay modules, preferably assay cartridges, are described as are reader apparatuses which may be used to control aspects of module operation. The modules preferably comprise a detection chamber with integrated electrodes that may be used for carrying out electrode induced luminescence measurements. Methods are described for immobilizing assay reagents in a controlled fashion on these electrodes and other surfaces. Assay modules and cartridges are also described that have a detection chamber, preferably having integrated electrodes, and other fluidic components which may include sample chambers, waste chambers, conduits, vents, bubble traps, reagent chambers, dry reagent pill zones and the like. In certain preferred embodiments, these modules are adapted to receive and analyze a sample collected on an applicator stick.

Correspondence Address:  
**KRAMER LEVIN NAFTALIS & FRANKEL LLP**  
**INTELLECTUAL PROPERTY DEPARTMENT**  
**919 THIRD AVENUE**  
**NEW YORK, NY 10022 (US)**

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