Abstract 45

A 96-WELL THERMISTER FOR THERMAL CYCLER CALIBRATION

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We present a new device for the simultaneous calibration of all 96 wells of a standard 96 well thermal cycler. Industry wide quality assurance practices require that forensic laboratories conduct yearly calibration assessments of thermal cyclers. This calibration can consume many hours of technician time per instrument and many labs have multiple instruments. The most common procedure for this process has been to use a single probe thermometer to test the performance in each of the 96 wells, one at a time. This process is usually repeated several times over a range of applicable temperatures.

The device we have developed measures the temperature performance of each of the 96 wells simultaneously via a common circuit board interfaced with a standard PC. This allows simultaneous quality assessments of all wells, streamlining the calibration procedure and eliminating the temperature fluctuations that occur from moving the temperature probe between the 96 wells of the thermal cycler plate.