

August 2017

# MiniCube PCR

## Application note - calorimetry 2

Minicube PCR - a quality product from GNAcode

Minicube PCR can due to its fine thermal recording circuits be used for calorimetric studies of molecular composition and liquid volume in 0.2 ml PCR tubes

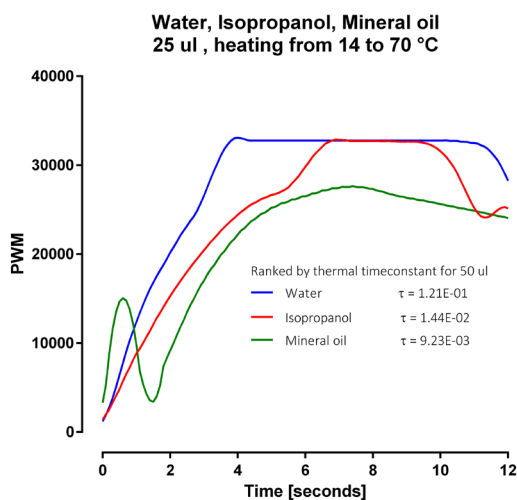


Precision Wells  
Each well is a  
precision device

### Protocol A : Molecule Detection

We used three 0.2 ml AB-0620 flat-cap PCR tubes. The tubes were filled respectively with 25  $\mu$ l of water, isopropanol and mineral oil. The time constants of the liquids were calculated to: 0.121 (25  $\mu$ l H<sub>2</sub>O), 0.014 (25  $\mu$ l isopropanol) and 0.009 (25  $\mu$ l mineral oil). Samples was heated from 14  $^{\circ}$ C to 70  $^{\circ}$ C and PWM data recorded.

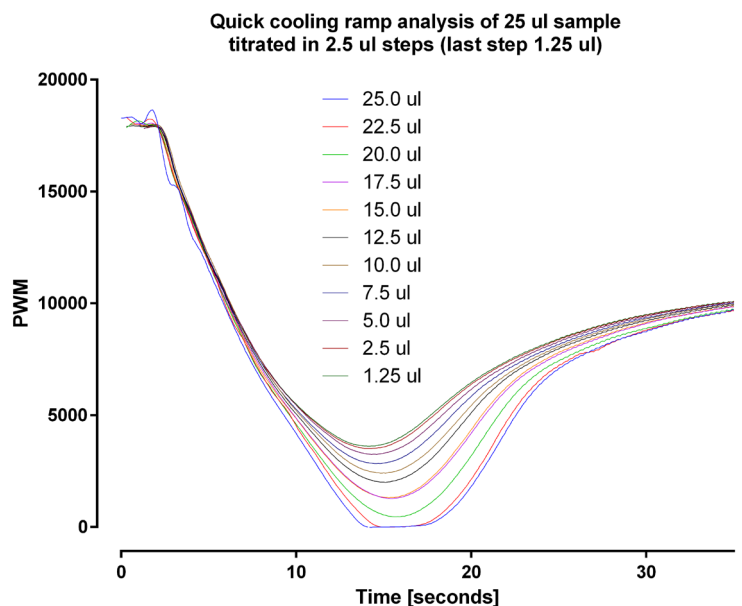
Results: Within a few seconds we can differentiate the liquids by their heating profiles.



### Protocol B : Volume Titration

We used one 0.2 ml AB-0620 flat-cap PCR tube. The tube was filled with 25  $\mu$ l of water. Sample was heated from 70  $^{\circ}$ C and cooled to 35  $^{\circ}$ C and PWM data recorded of the cooling ramp. Aliquots of 2.5  $\mu$ l was removed and the experiment repeated. The last aliquot was 1.25  $\mu$ l leaving a similar amount in the tube.

Results: We can clearly differentiate the volumes in the tube in a time frame of less than 30 seconds. If time is expanded nano-liter detection sensitivity is possible.



## Contact



Call: +45 9635 4500



Email: [info@gnacode.com](mailto:info@gnacode.com)

[www.gnacode.com](http://www.gnacode.com)

gnacode