DQCM Beating the Standard Coagulometer in the Domain of Sensitivity Range and Information for Hemostasis of Human Plasma

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Instrumentation: qCell T

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- **10 MHz QCM (mass and visco-elastic sensitive transducer)**
- **Equally suitable for real time liquid and gas phase sensing**
- **Equipped with efficient thermostat with fast temperature control**
- **Powerful pumping system that eliminates any chance of bubble/ fluctuation in liquid phase analysis**
- **Fast and excellent baseline stability in few seconds**
- **The only DQCM instrument suitable for Hemostasis because of excellent baseline stability**
- **User friendly software with latest features for data handling**

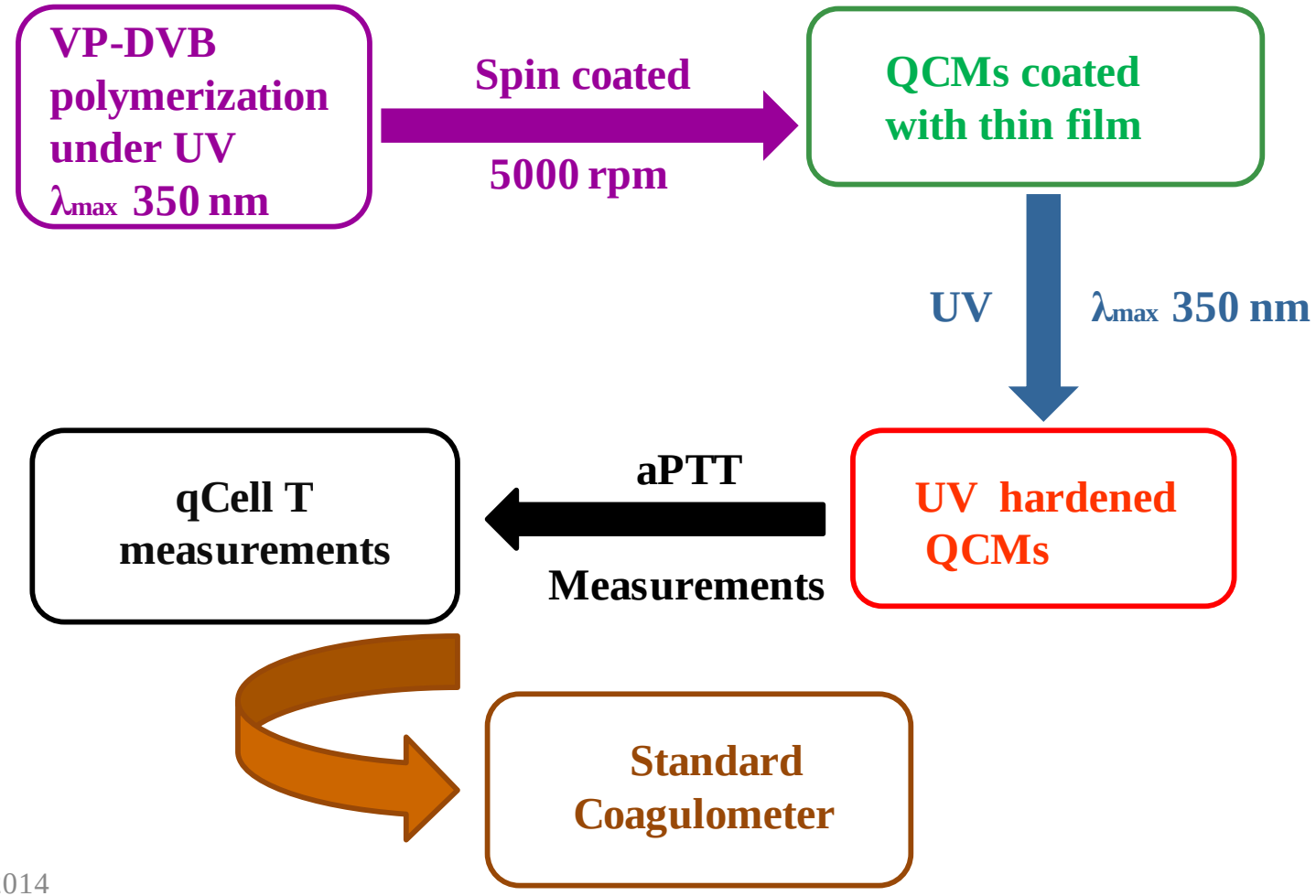
Literature

- **Some reports on fibrinogen concentration calculation using QCM***
- **No method for cumulative study of aPTT with fibrinogen concentration in a single set of measurement.**
- **No study on comparison of aPTT with standard coagulometer.**

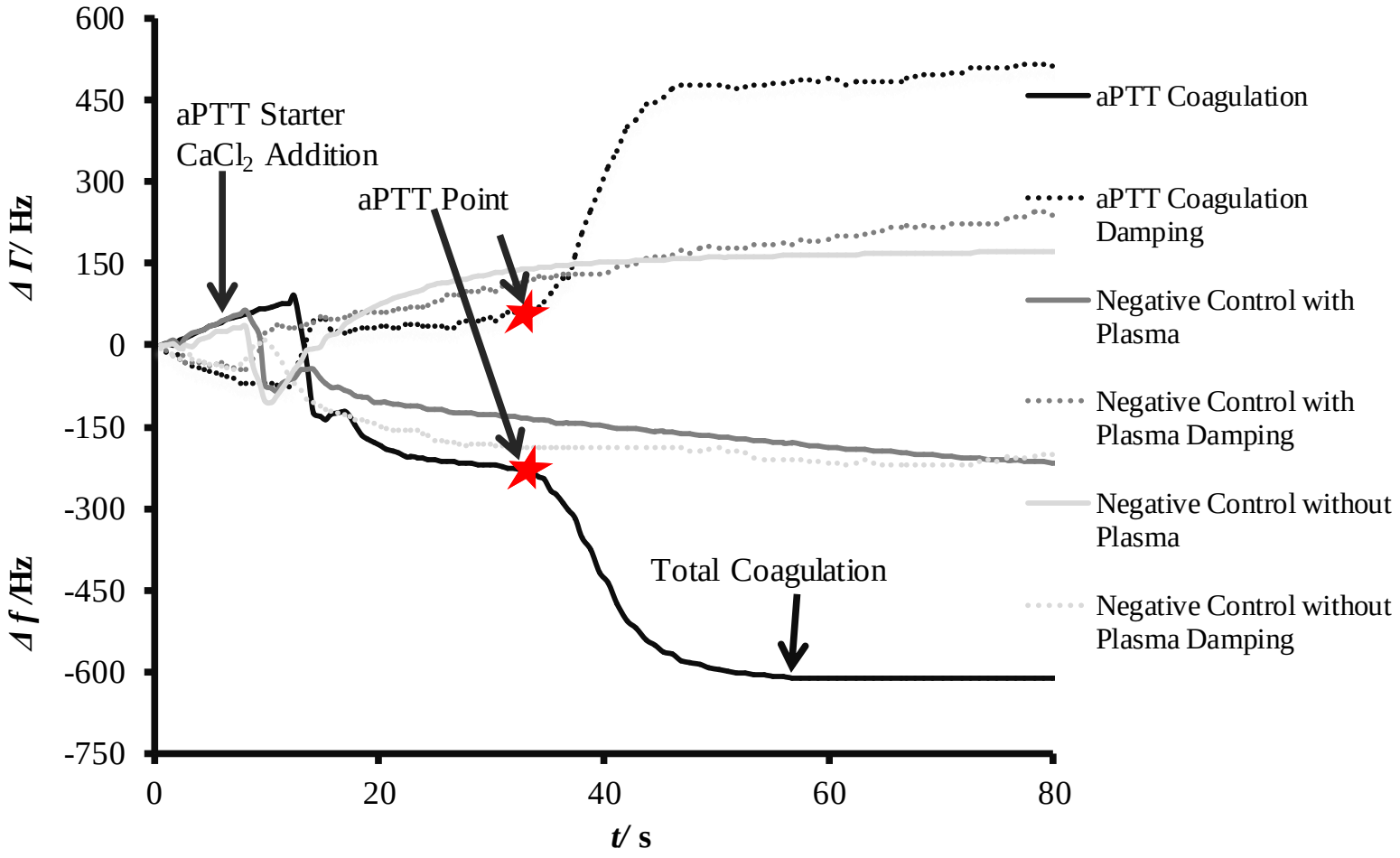
* Y. Chunyan, Q. Ling, F. Weiling, *Sensors*. **2013,** 13(6), 6946.

* R. S. Lakshmanan, V. Efremov, S. M. Cullen, A. J. Killard, *Sens. Act. B.* **2014,** 192, 23.

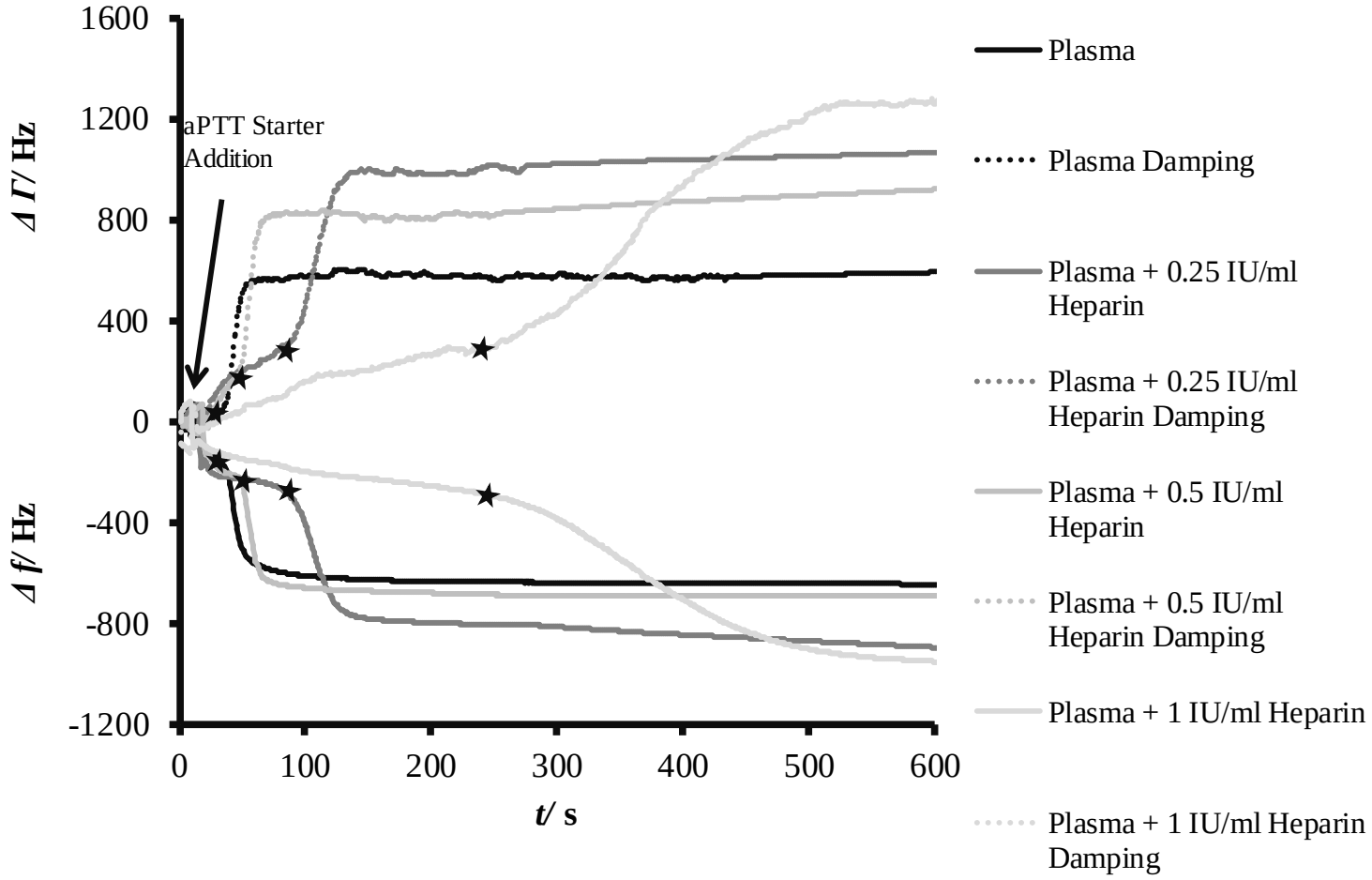
Experimental



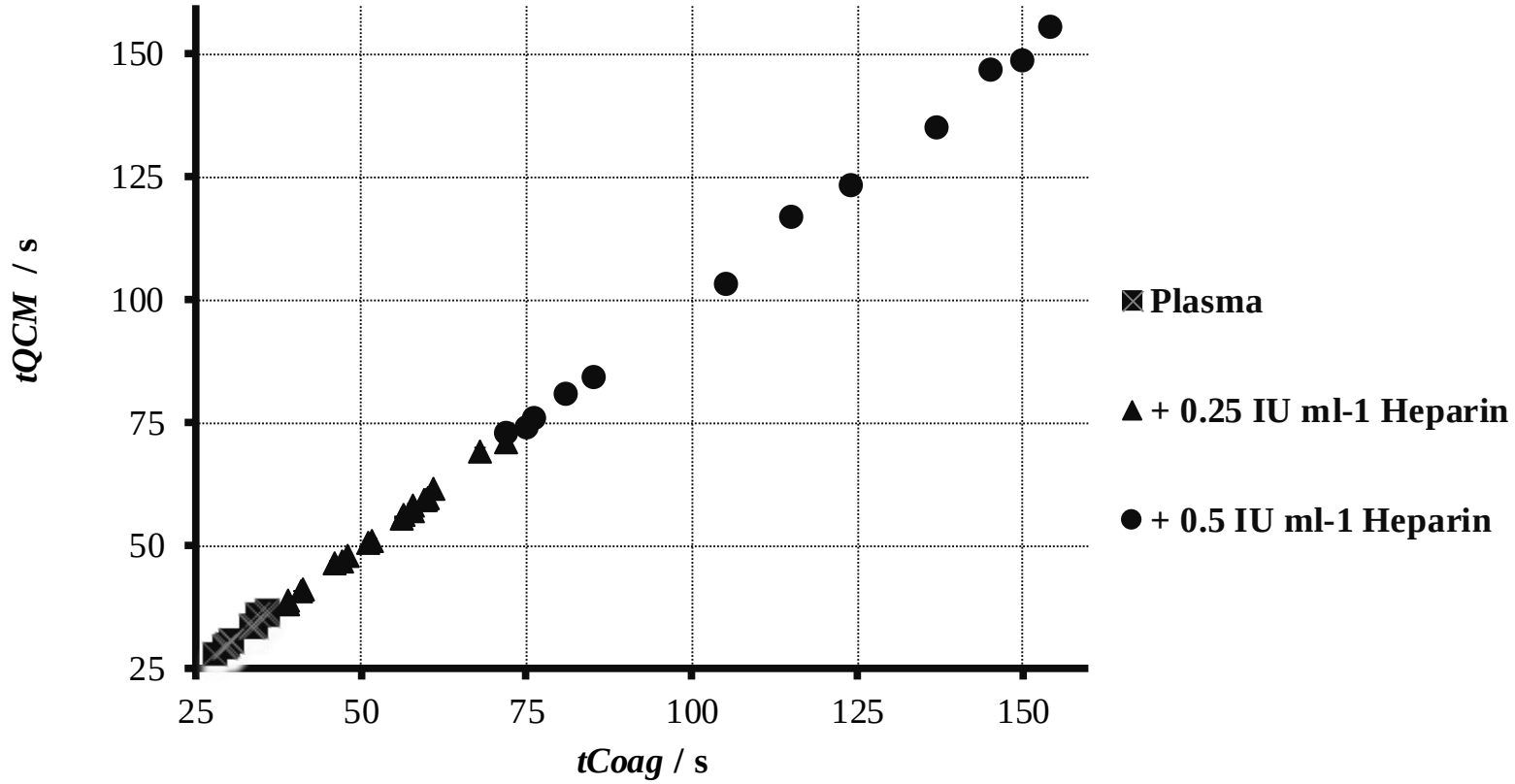
DQCM Exemplary aPTT Curve



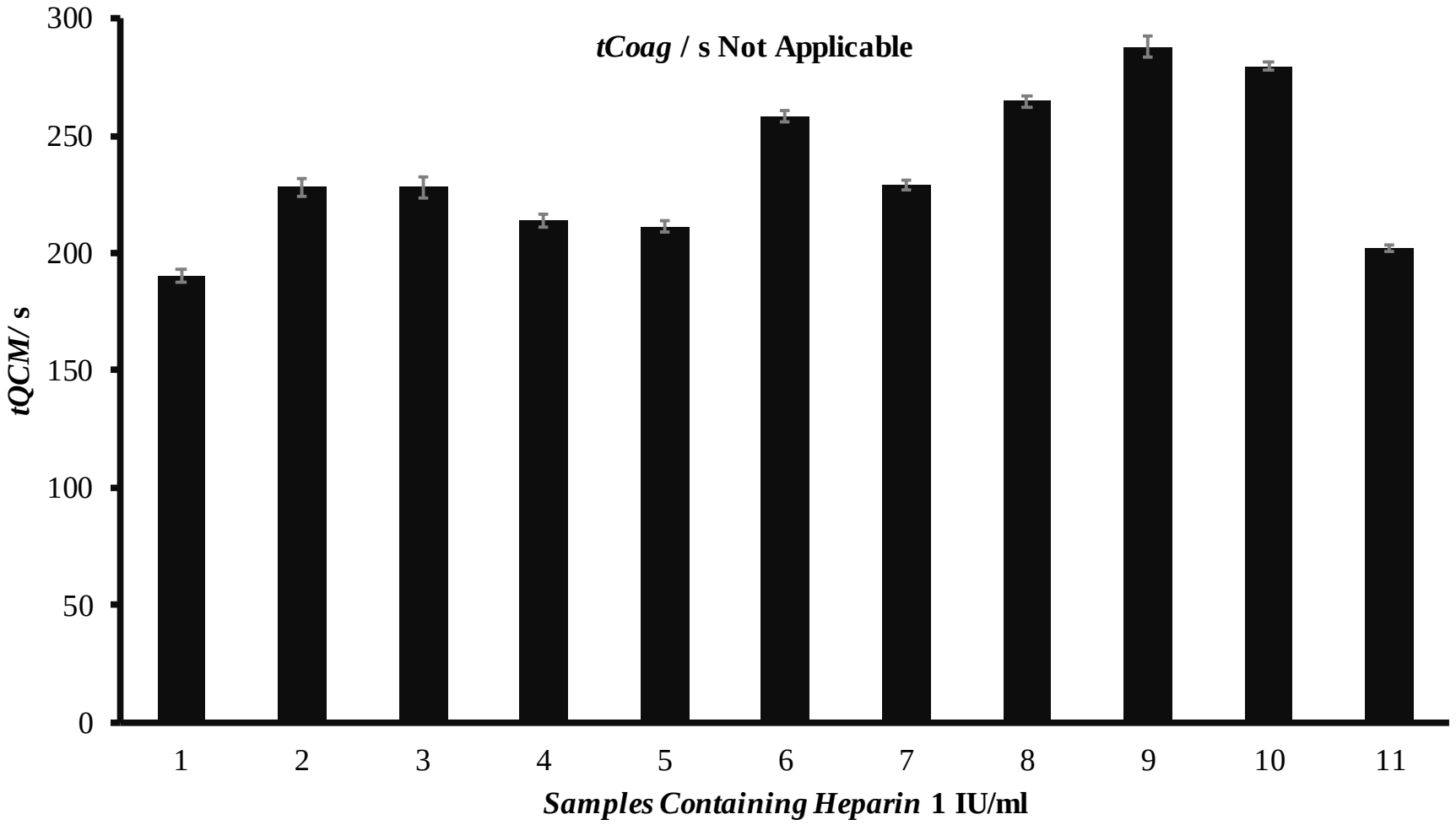
aPPT for Heparin Induced Plasma



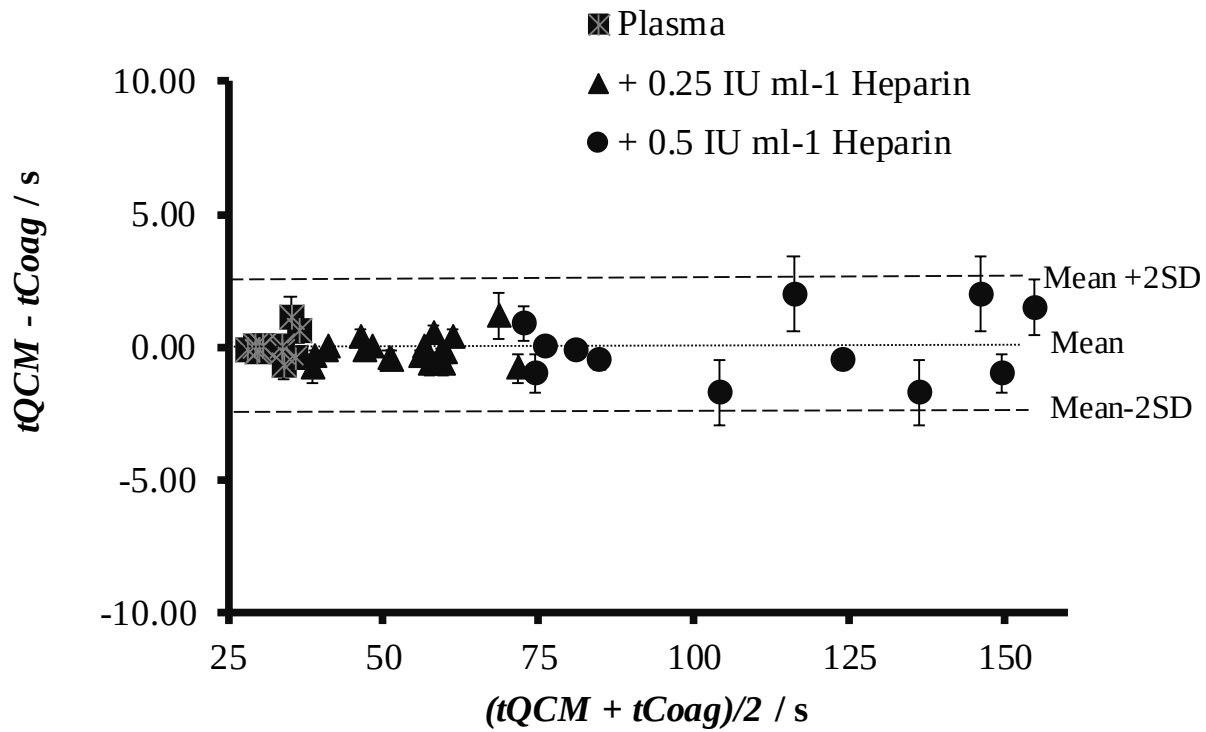
DQCM Vs Standard Coagulometer



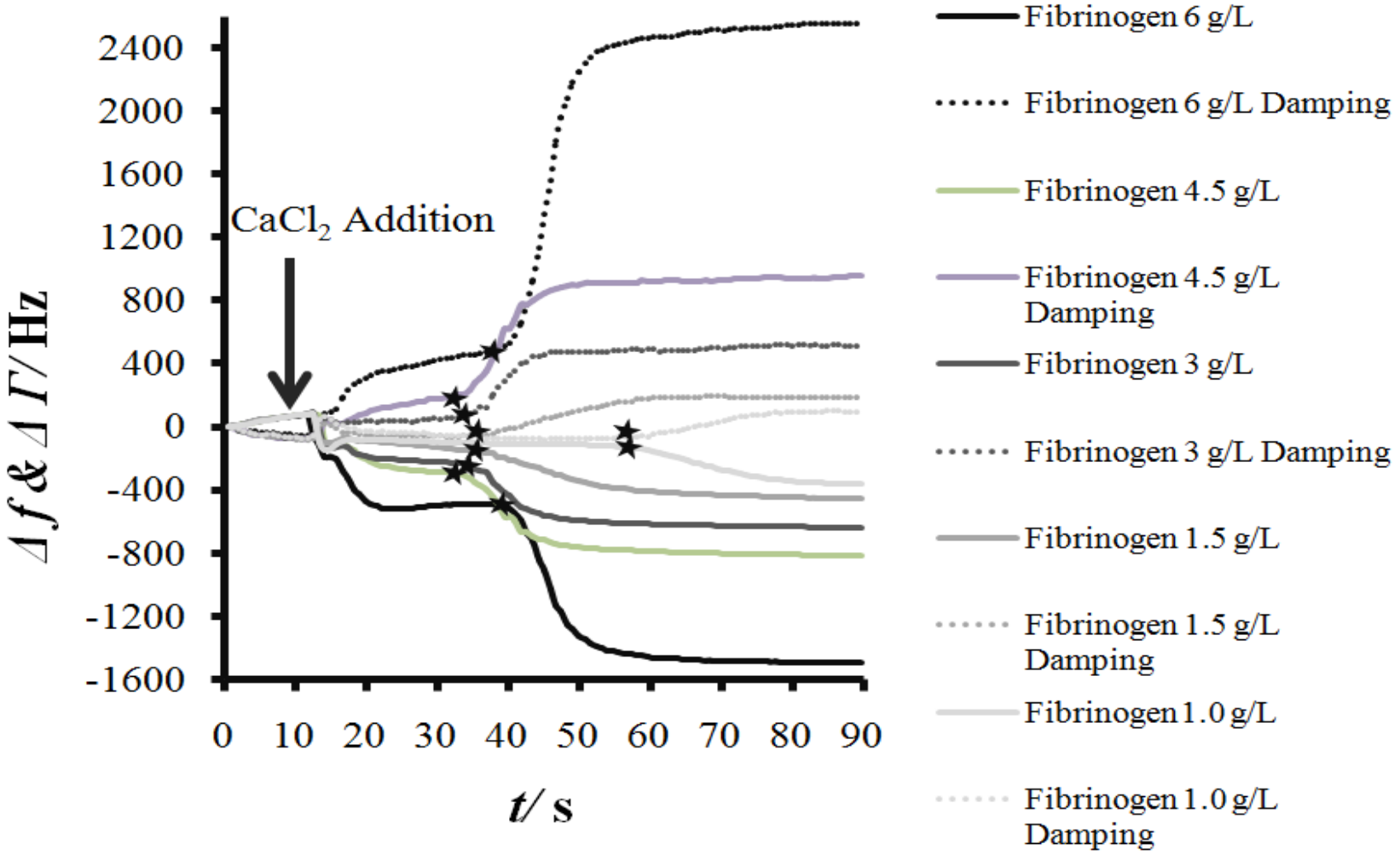
aPTT for Heparin 1 IU/mL Plasma



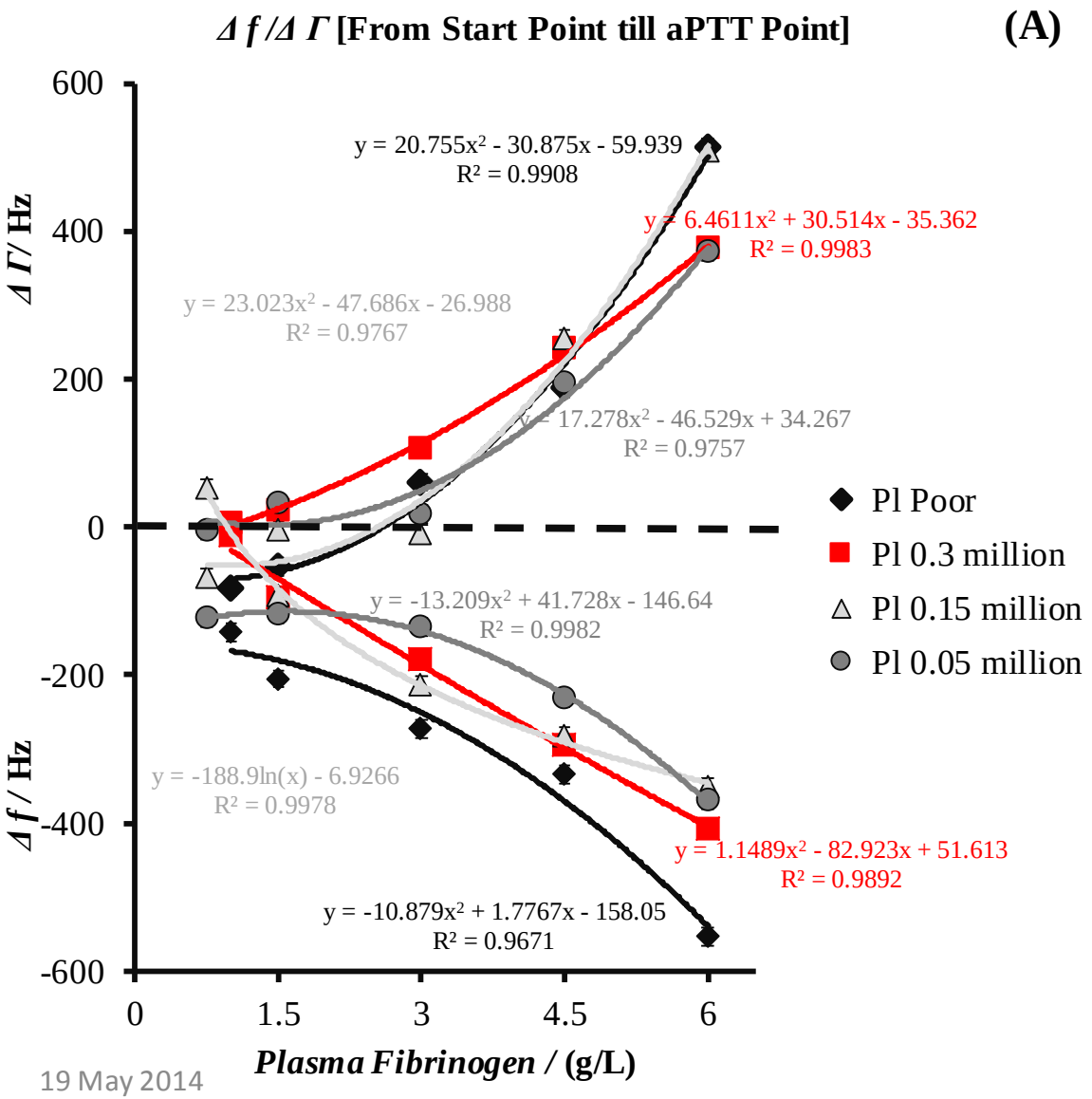
Bland Altman Plot

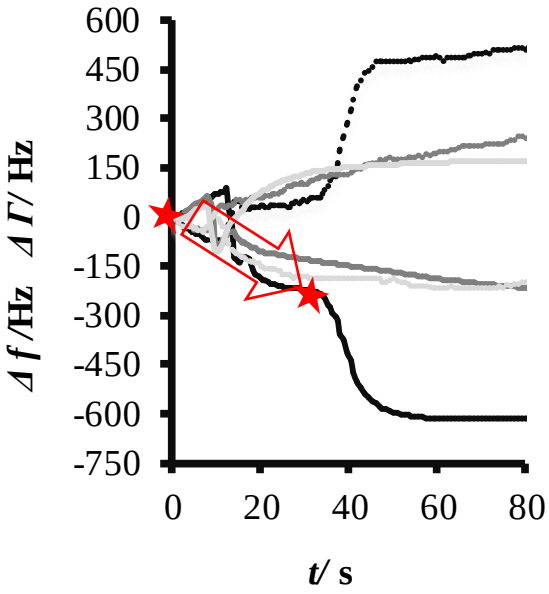


Fibrinogen Gradient Curves for PPP

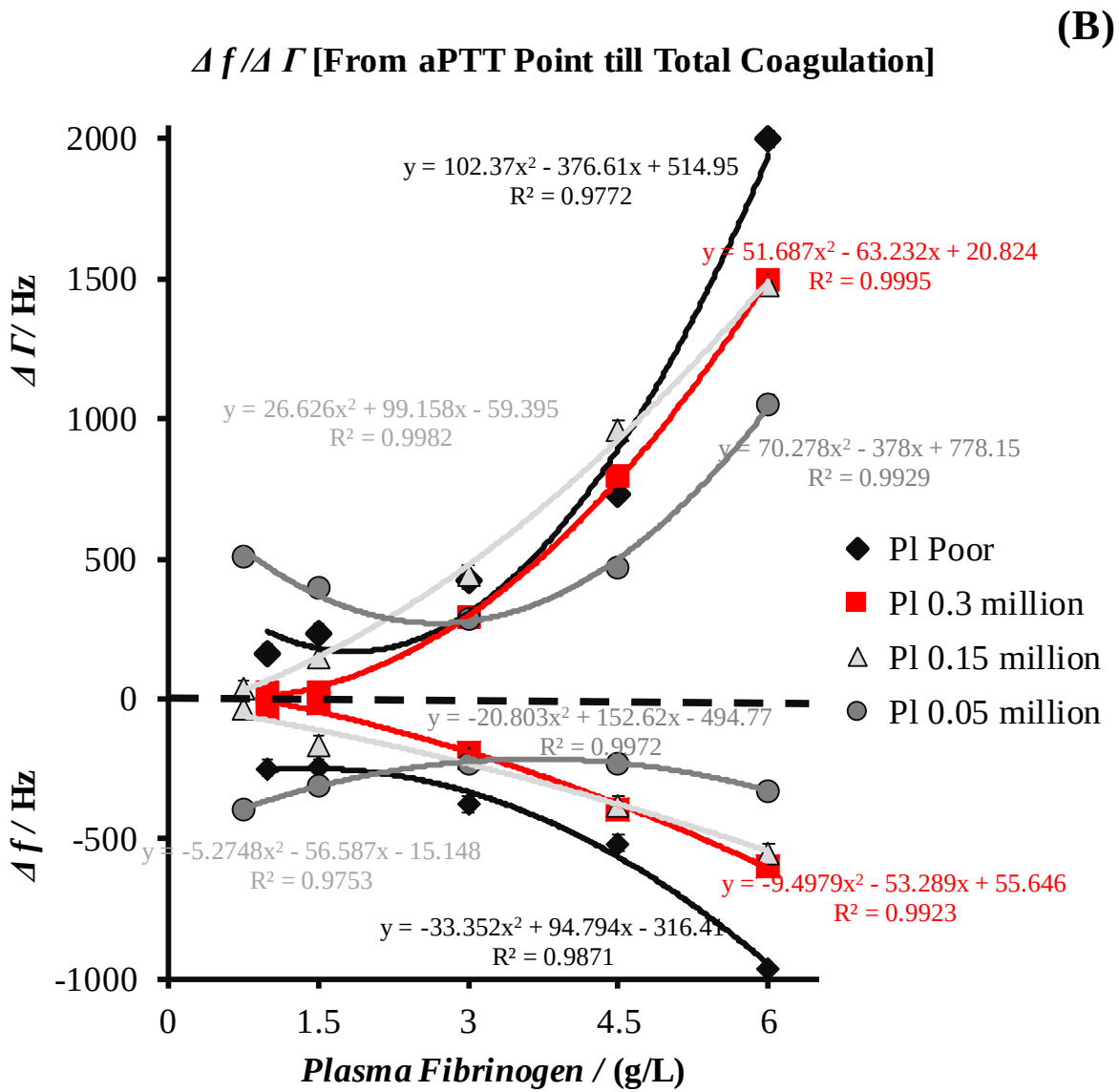


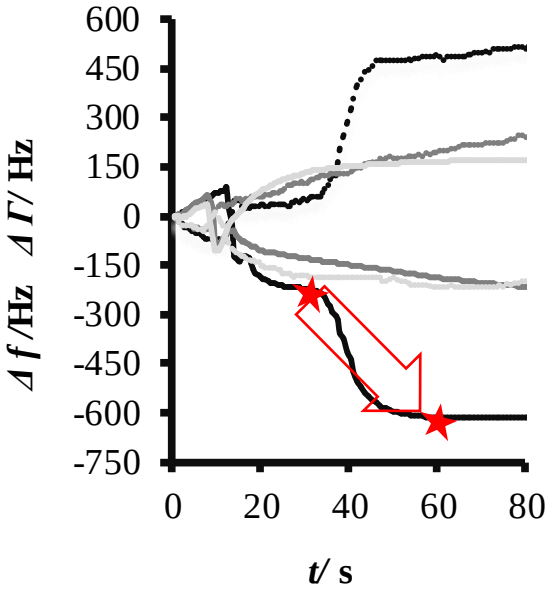
Fibrinogen Calibration Curves



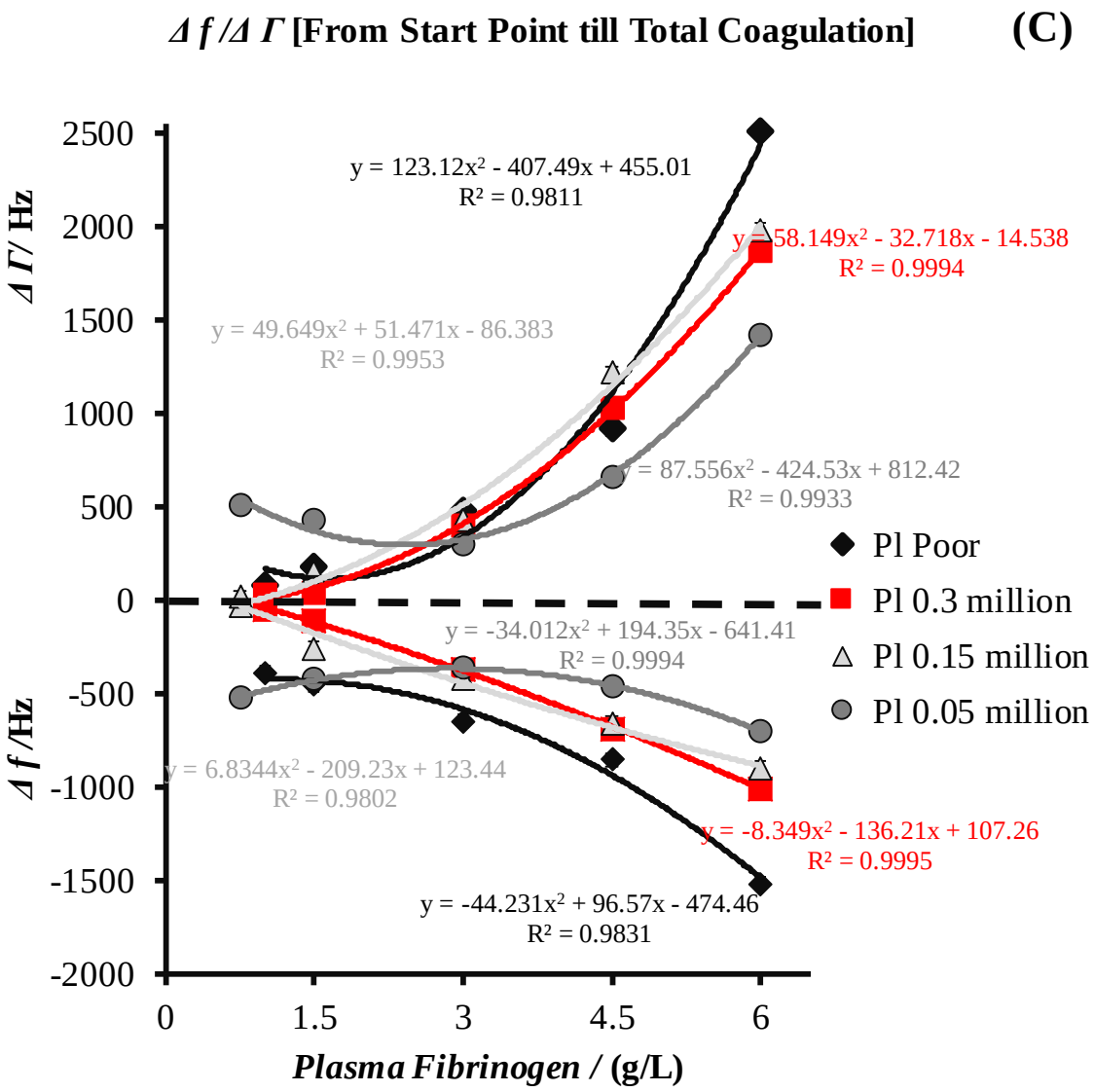


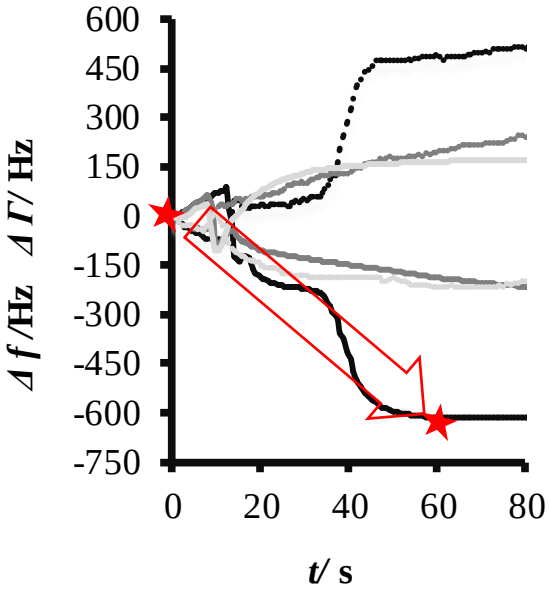
Fibrinogen Calibration Curves





Fibrinogen Calibration Curves





Summary:

- **Excellent correlation at lower and mid range aPTT with respect to standard mechanical coagulometer**
- **Plasma-1 IU/mL heparin mechanical coagulometer N/A.**
- **aPTT+Fibrinogen data from a single set of measurements.**
- **Sensing layers are stable can be reused (10 times tested)**
- **qCell T a suitable instrument for coagulation**
- **DQCM has bright future of relevant clinical applications**

Thanks for your kind attention

Fibrinogen Gradient Curves