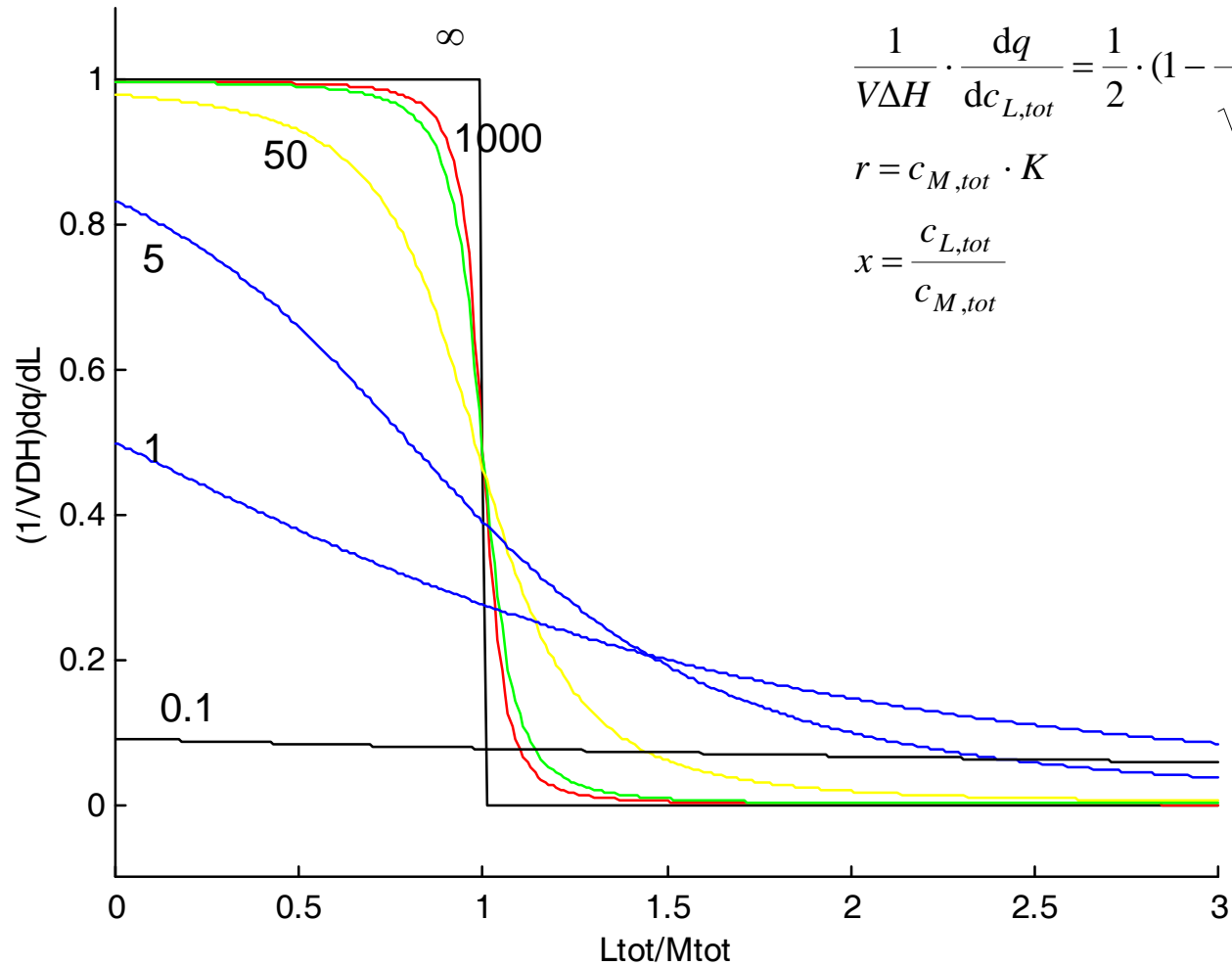


Experimental design

Titration experiments

Dependence on C^*K

Model: 1:1 binding



$$\frac{1}{V\Delta H} \cdot \frac{dq}{dc_{L,tot}} = \frac{1}{2} \cdot \left(1 - \frac{1 + r(x-1)}{\sqrt{(r - r \cdot x + 1)^2 + 4 \cdot r \cdot x}} \right)$$

$$r = c_{M,tot} \cdot K$$

$$x = \frac{c_{L,tot}}{c_{M,tot}}$$

C = conc. Of titrand.

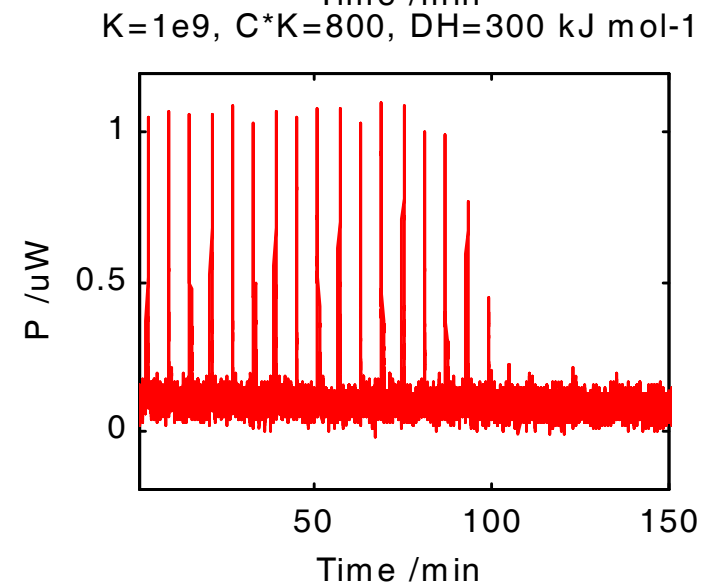
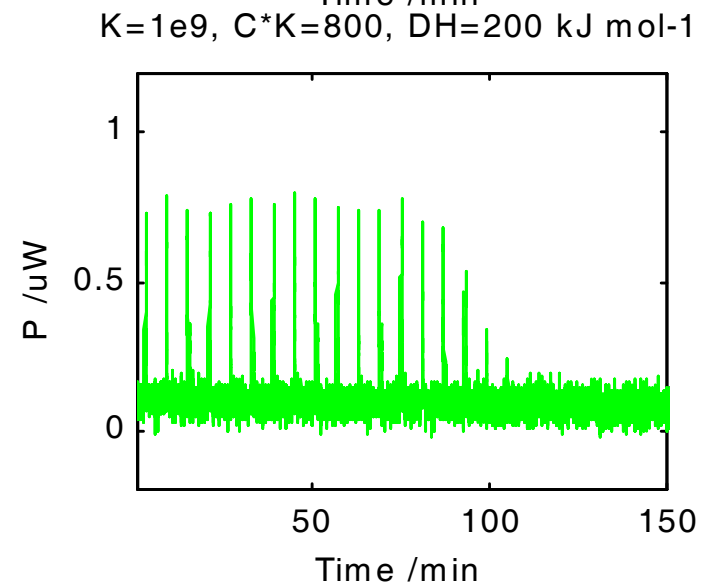
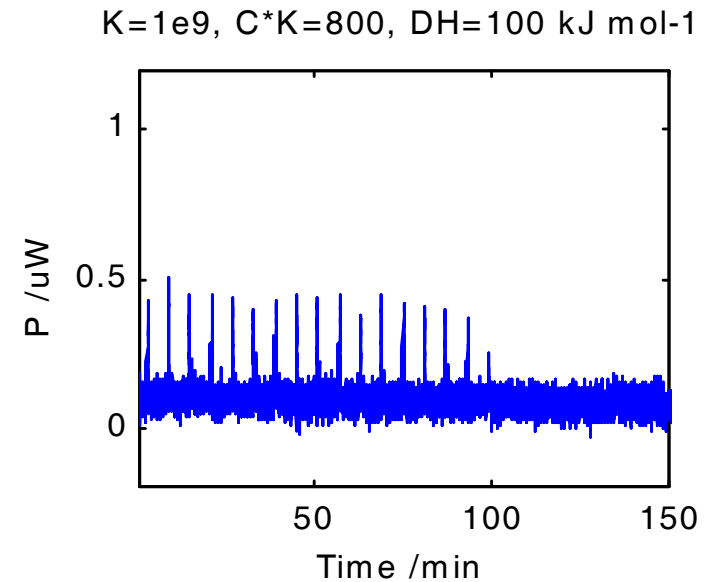
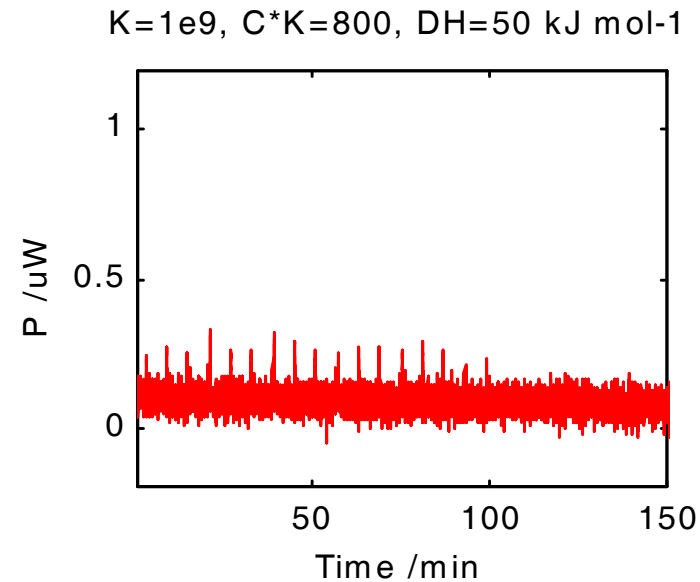
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Courses

Optimisation of C

- For accurate evaluation the value of $C \cdot K$ has to be between 1 and 1000
- Best precision is obtained if the titration curve has a sigmoidal shape and many data points in the transition region (e.g. $C \cdot K = 50$)
- *Ex.* If K is estimated to 10^6 M an optimum concentration of C is 10^{-3} M.

Simulations for $K=10^9 \text{ M}^{-1}$ and $C^*K=800$



END

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