2nd E-Cell Sprint

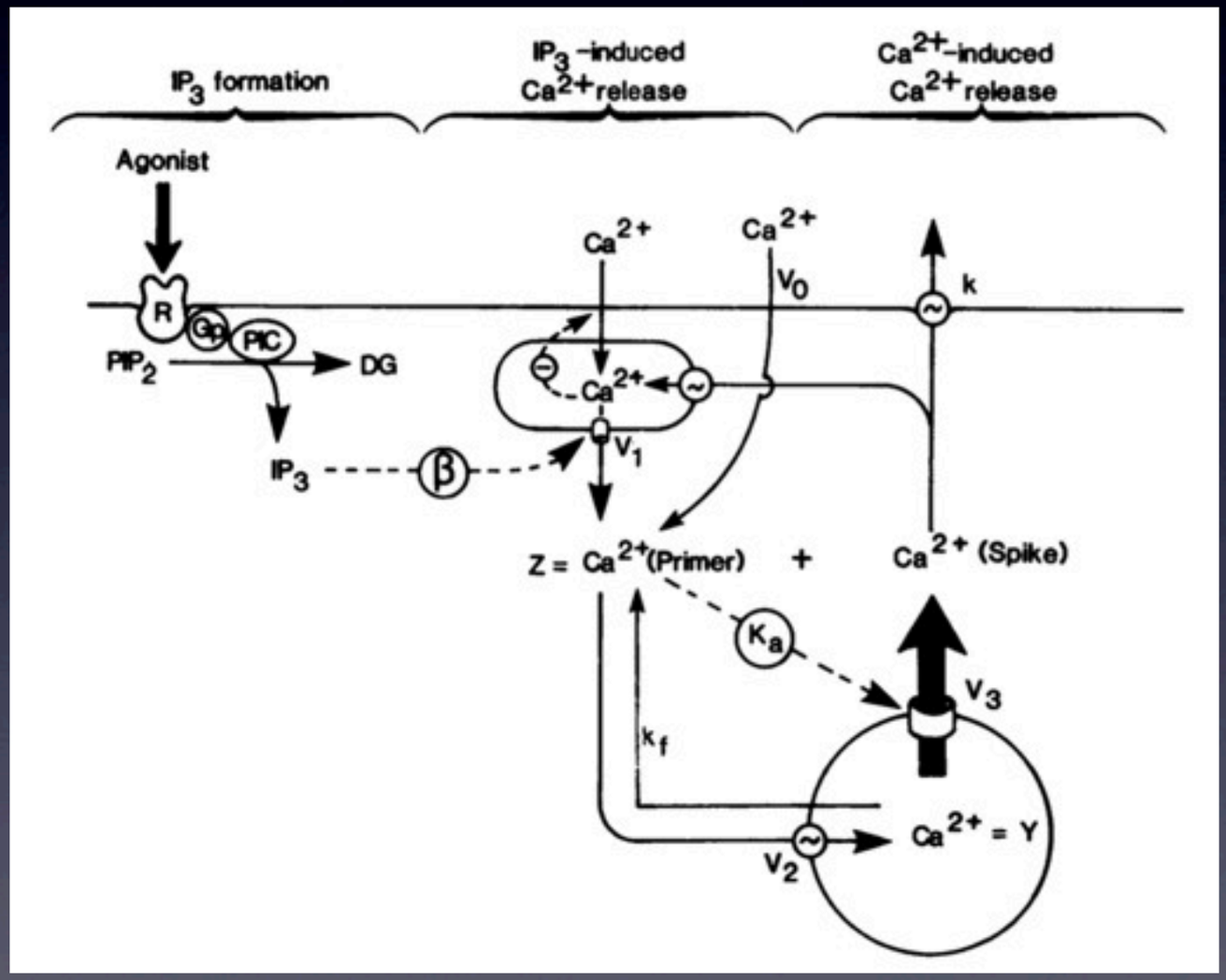
Keita Ashida

Result

- Two Modelings by E-Cell 3
  - Simple Ca^{2+} Oscillation Model
  - Simple Cyclin Oscillation Model
- Pairwise Alignment Program by Python

Modelings

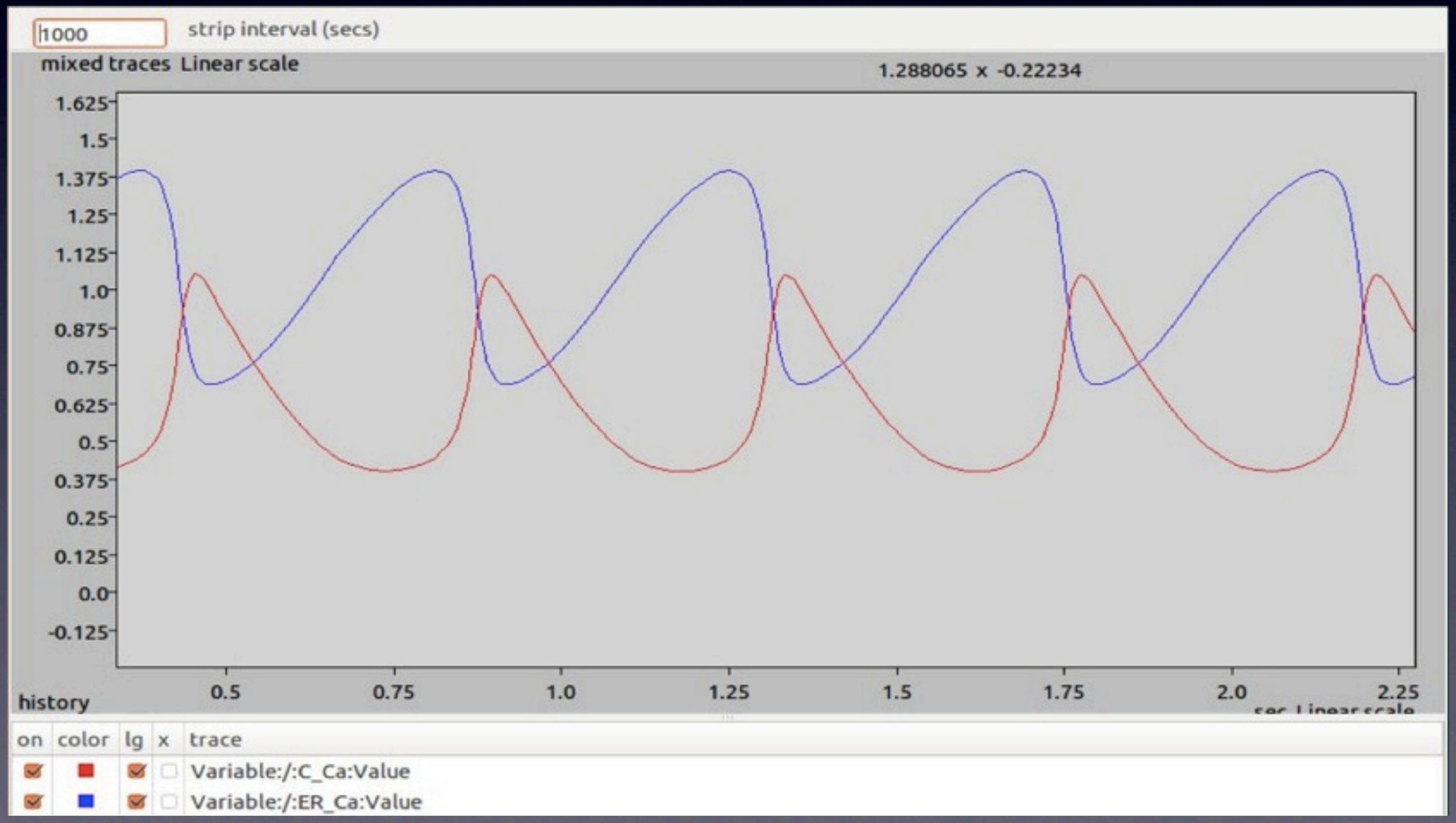
- Simple Ca^{2+} Oscillation Model



Goldbeter, A., Dupont, G., & Berridget, M, J. Minimal model for signal-induced Ca^{2+} oscillations and for their frequency encoding through protein phosphorylation. *Proc. Natl. Acad. Sci. USA* 87, 1461-1465(1990).

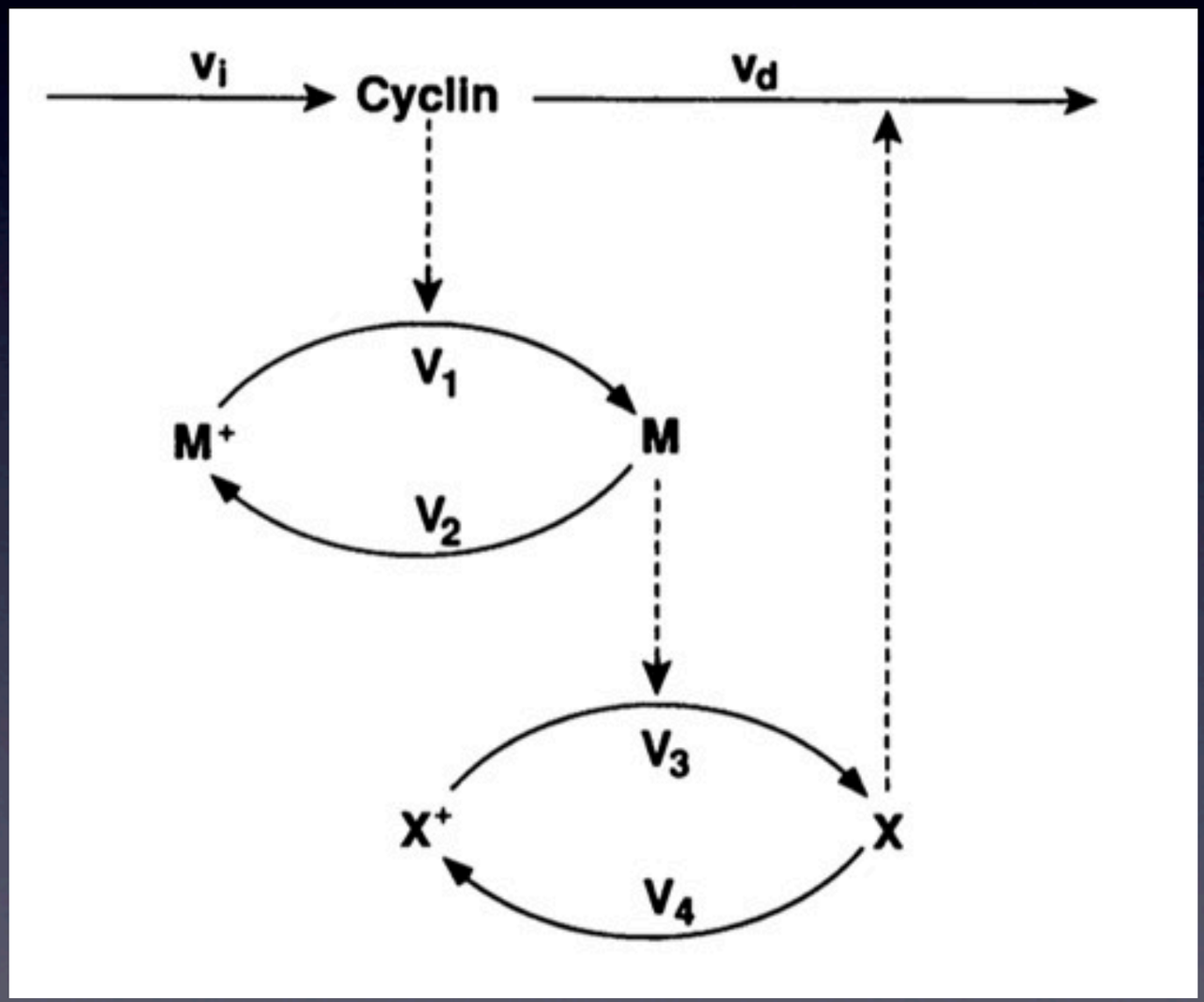
Modelings

- Simple Cyclin Oscillation Model



Modelings

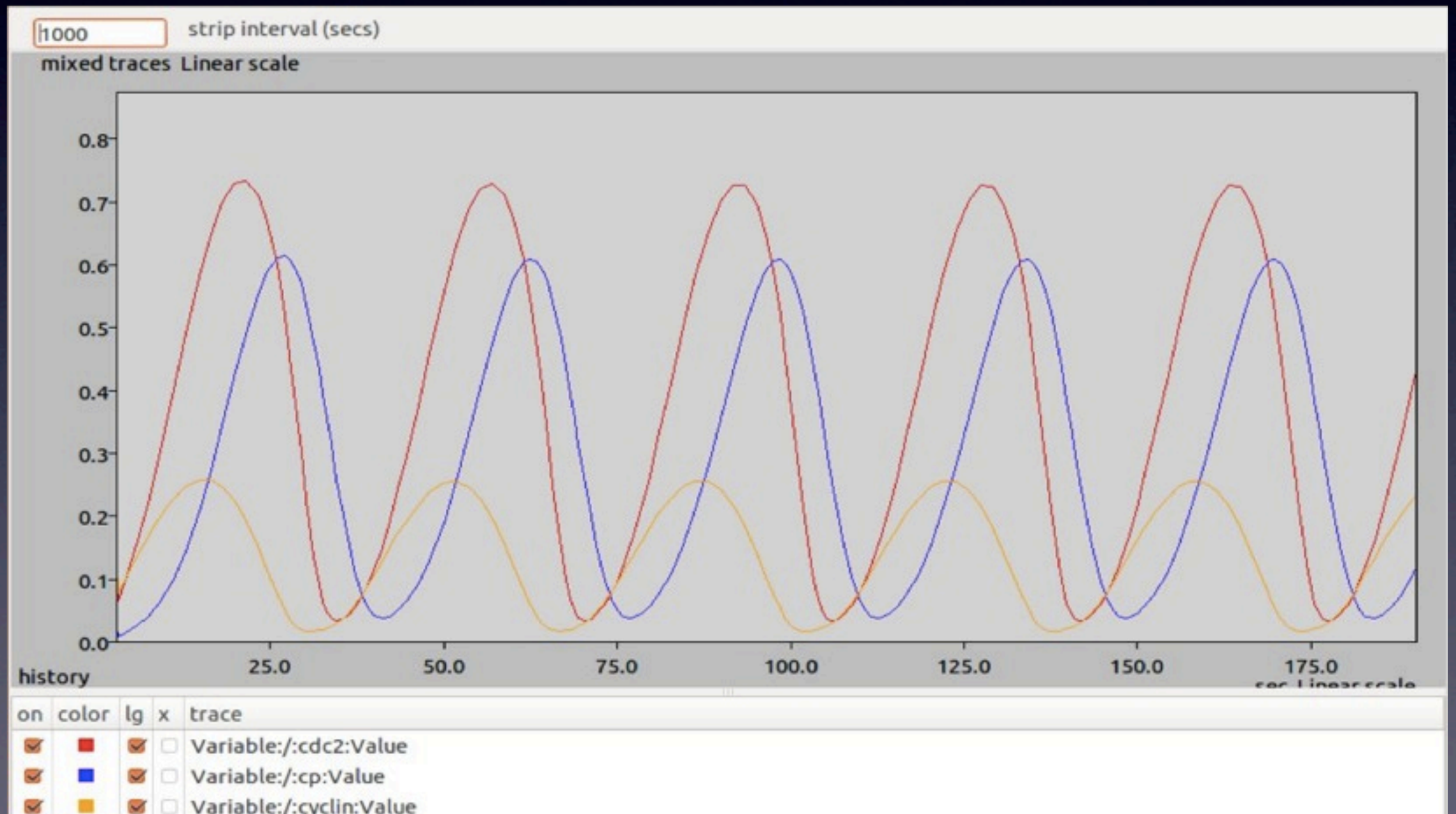
- Simple Cyclin Oscillation Model



Goldbeter, A. A minimal cascade model for the mitotic oscillator involving cyclin and cdc2 kinase. *Proc. Natl. Acad. Sci. USA* 88, 9107-9111(1991).

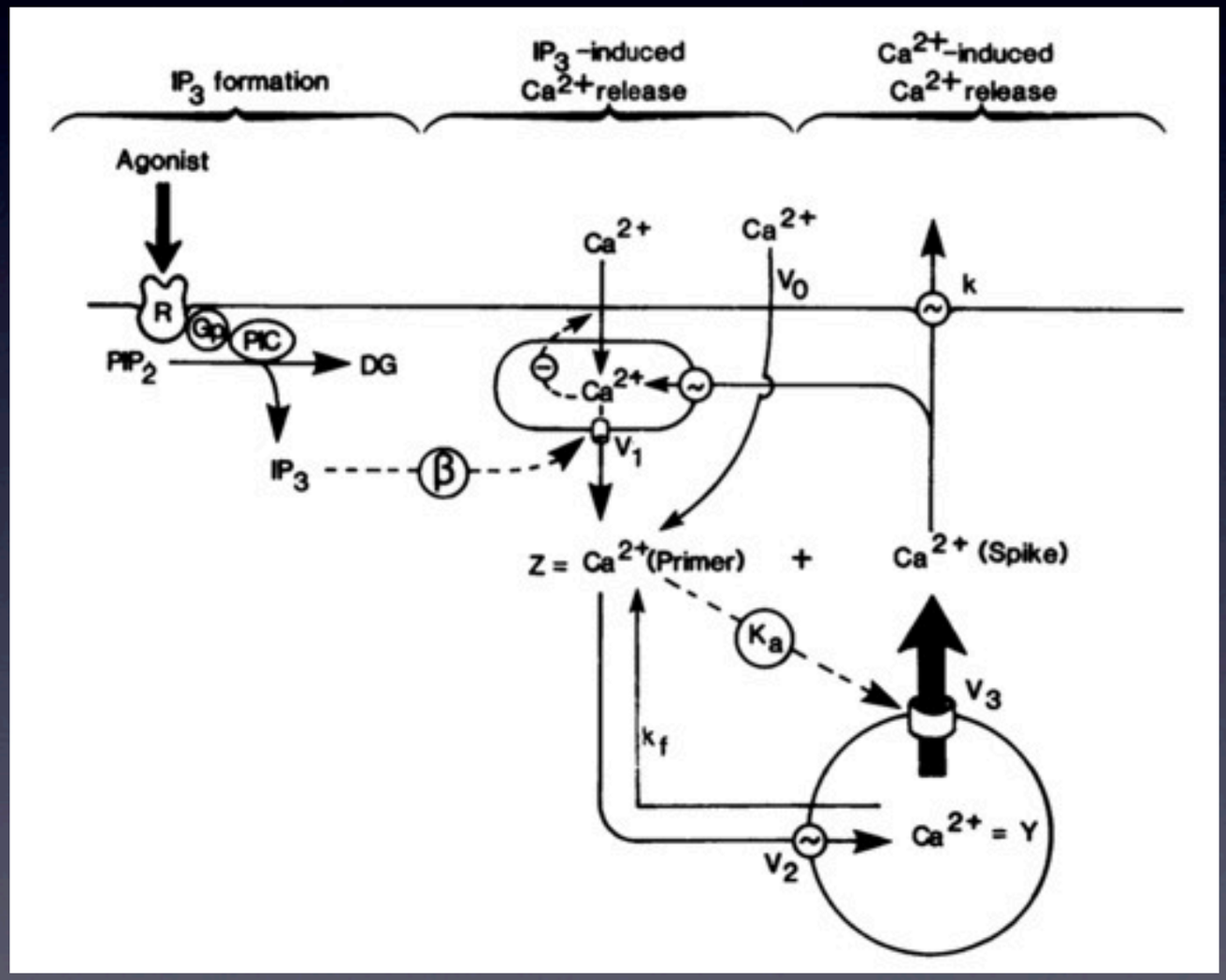
Modelings

- Simple Cyclin Oscillation Model



Modelings

- Simple Ca^{2+} Oscillation Model



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Pairwise Alignment Program by Python

- Aligning Amino Acid Sequences
- Scoring Matrix: BLOSUM50
- Using Dynamic Programming

```
> demo1
K---SMRPDNRQTGGFSSIGPPPTLFNVYGRTSGIQNL-G----GGLNLMTHSMKSSSGIVWDDANLMRFDFKAIIKKTFRYMKNPM
> demo2
KQCHSMRPDNRQTGGFSSIG---TLFNVYGRTSGISGISGIQNLGGLNLMTHSMK-SSGIVWDDANLMRFDFKA-I-KTFRYMKN--
```

Thank You For Your Listening