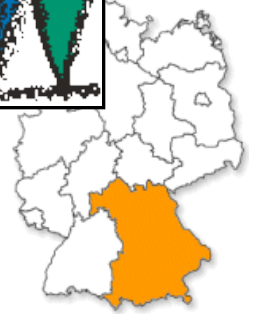




*SB Research Group University of Ulster
&
Weihenstephan University of Applied Sciences*



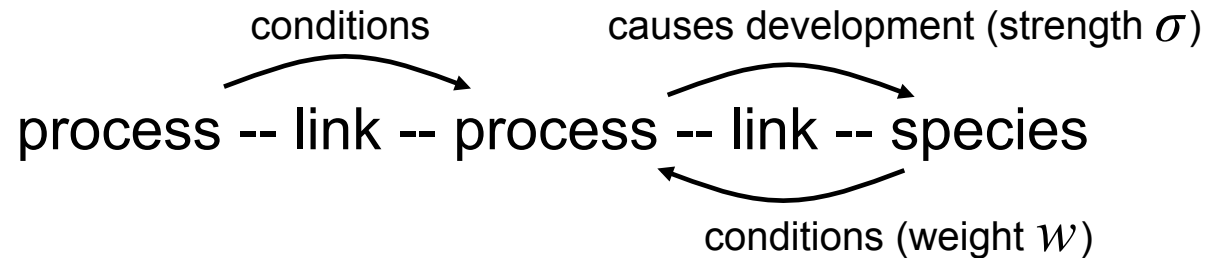
Modeling biochemical transformation and information processing with Narrator



Johannes Mandel, Hendrik Fuss, Niall Palfreyman, Werner Dubitzky

Co-dependence Models

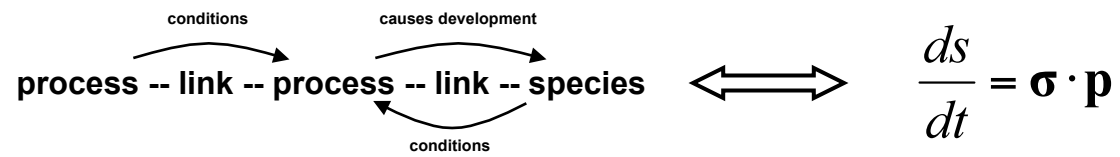
Connectivity rules



Graphical notation



Mapping to ODEs

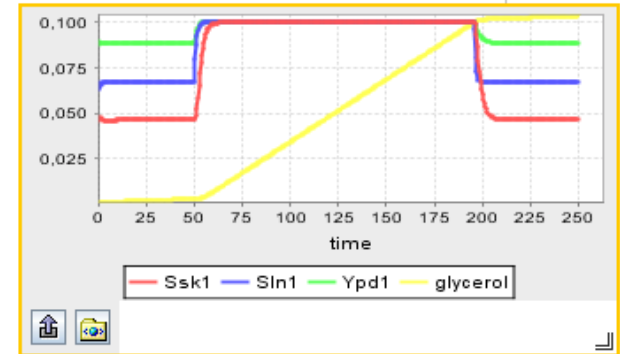
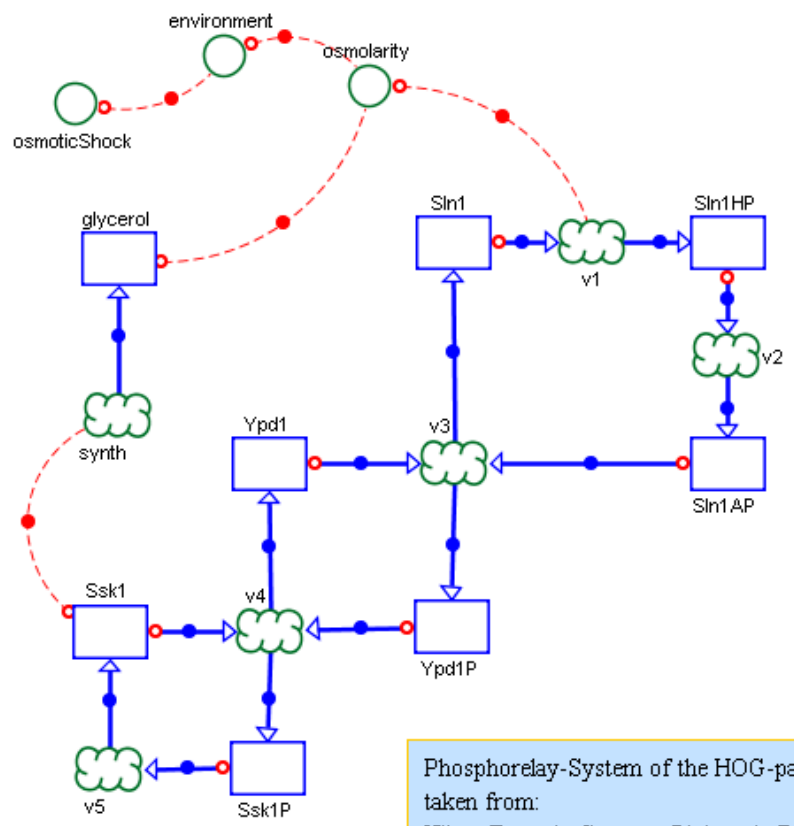




- Model**
- Phosphorelay
 - Sln1
 - Sln1HP
 - Sln1AP
 - Ypd1
 - Ypd1P
 - Ssk1
 - Ssk1P
 - glycerol
 - osmolarity
 - osmoticShock
 - environment
 - v1
 - v2
 - v3
 - v4
 - v5

- Reporters**

Phosphorelay



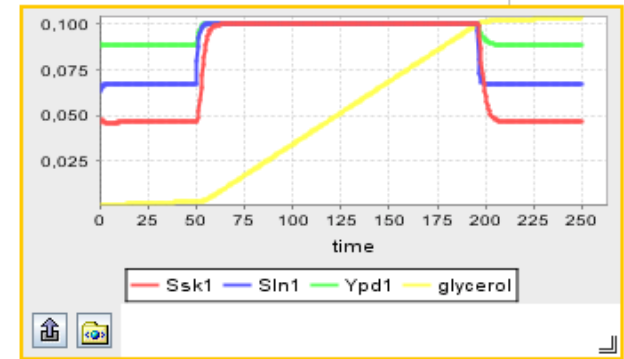
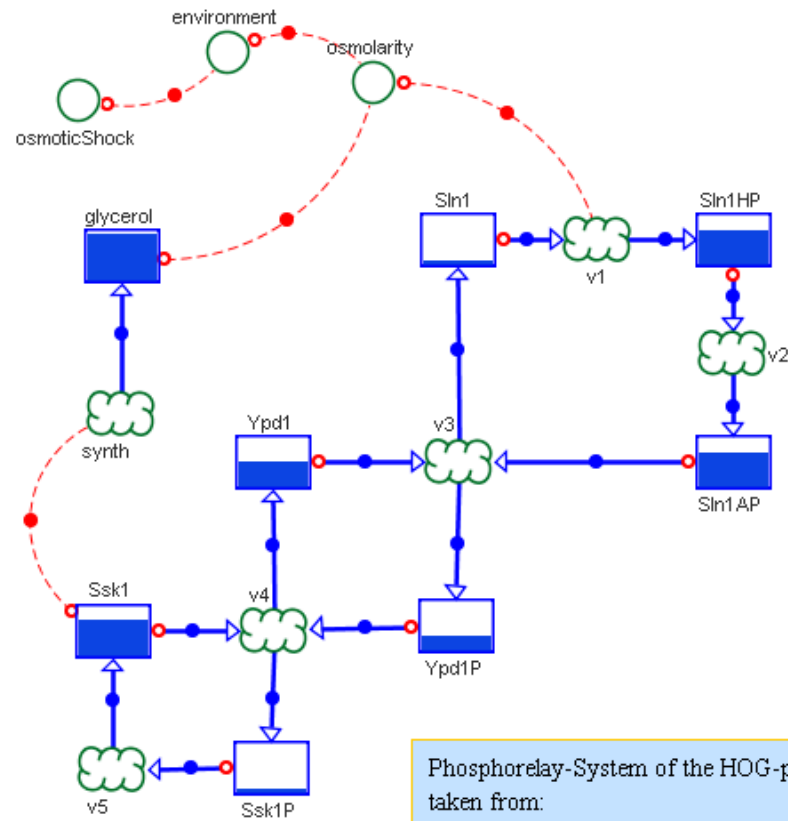
Phosphorelay-System of the HOG-pathway in yeast,
 taken from:
 Klipp, E. et al., Systems Biology in Practice:
 Concepts, Implementation and Application.
 Wiley-VCH, Weinheim. 2005,
 ISBN 3-527-31078-9. (Page 209)



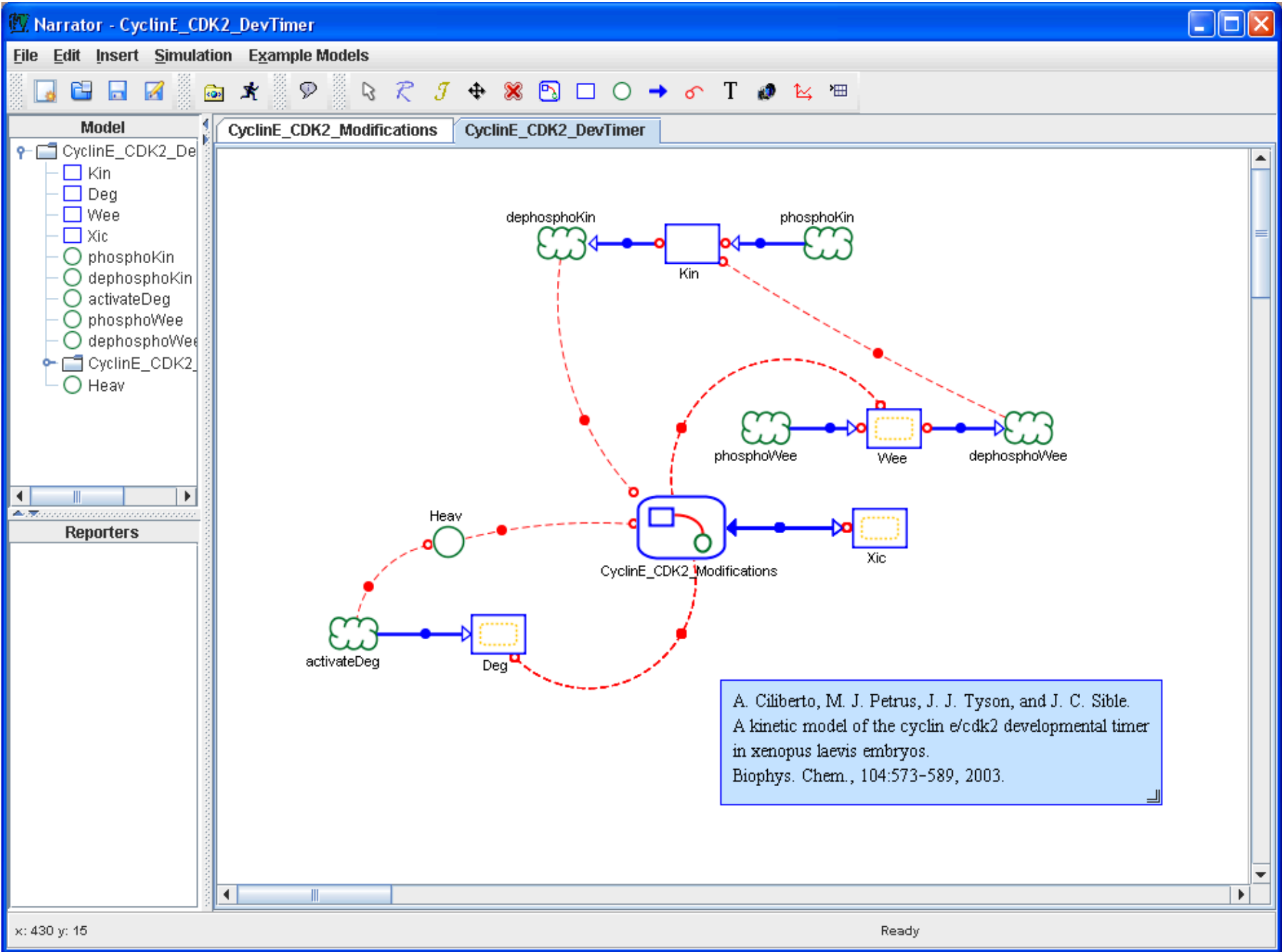
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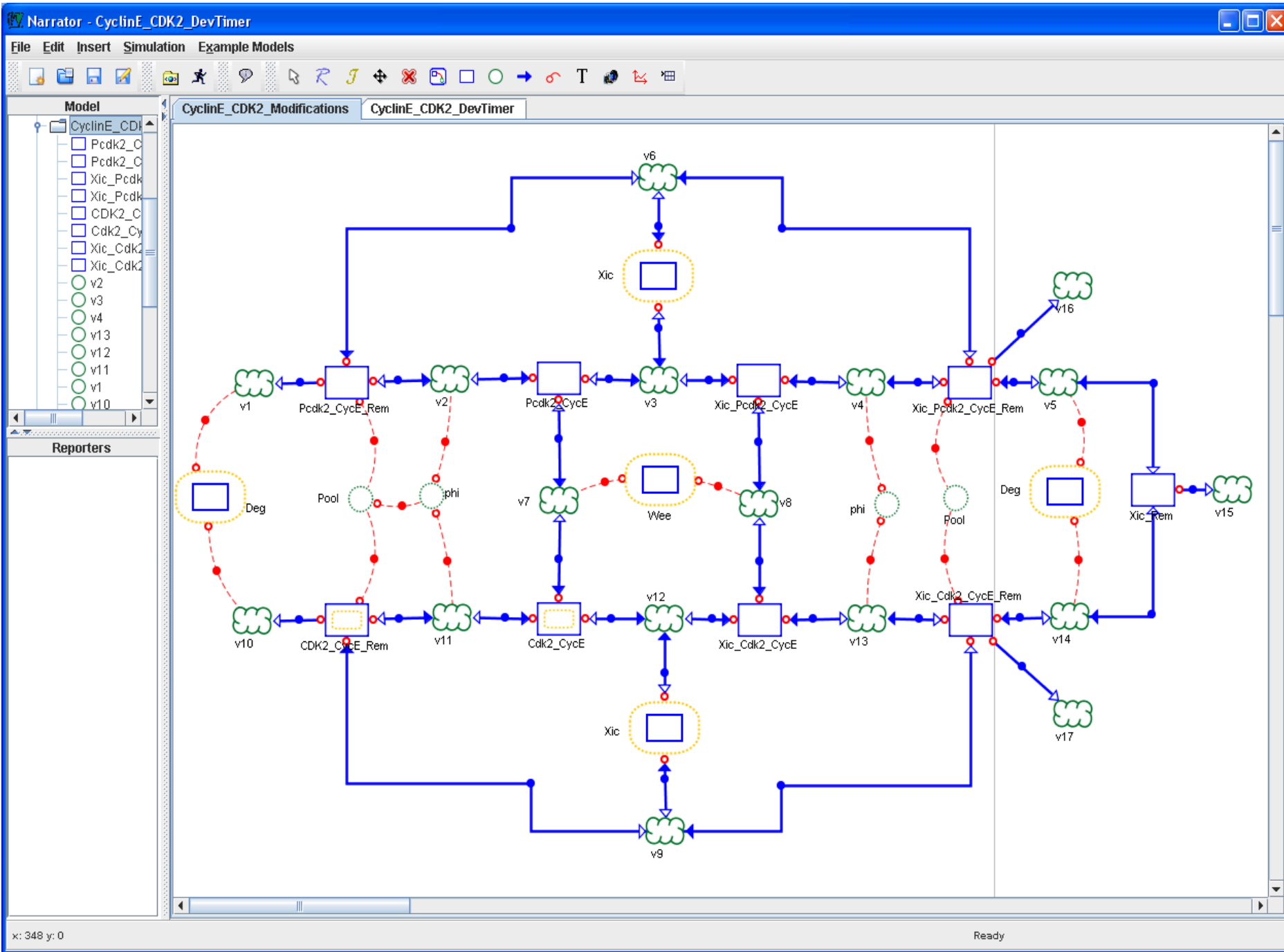
- Reporters**

Phosphorelay

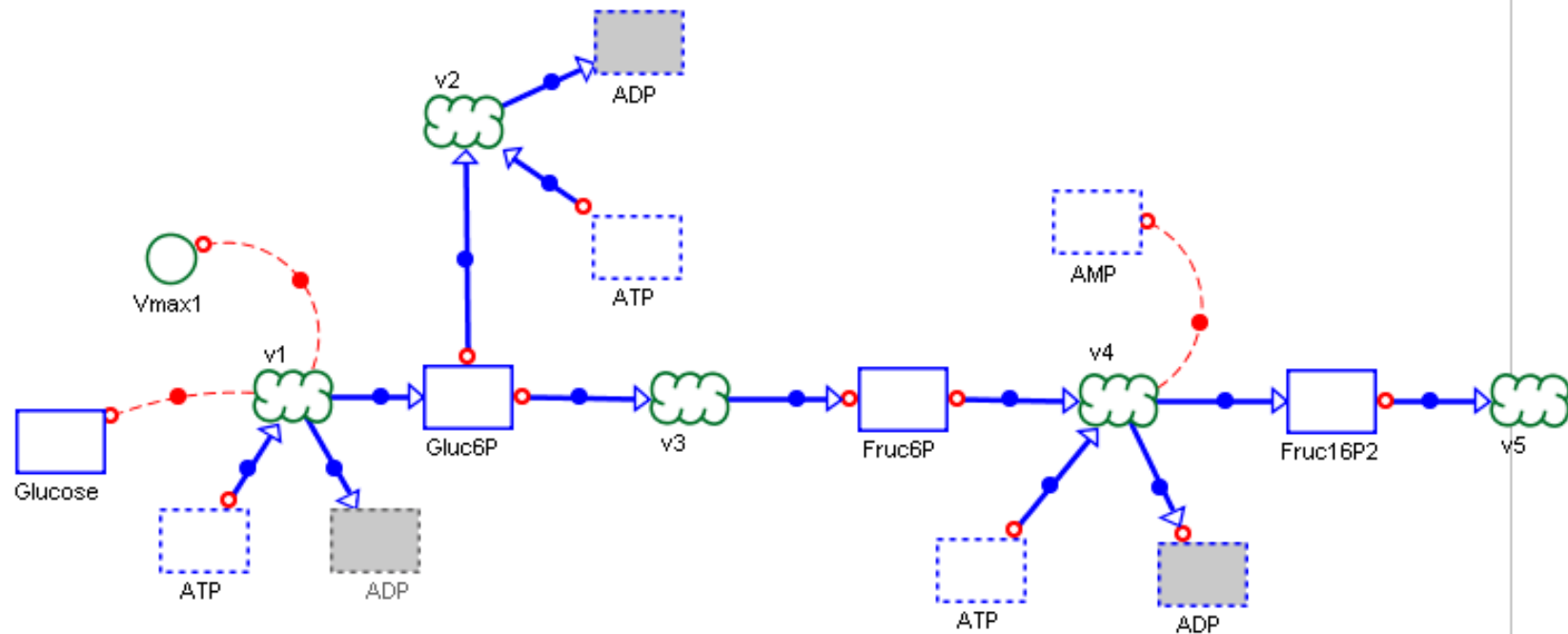


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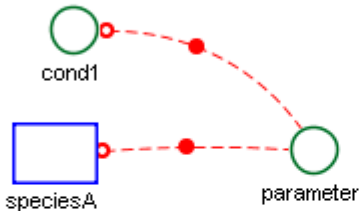
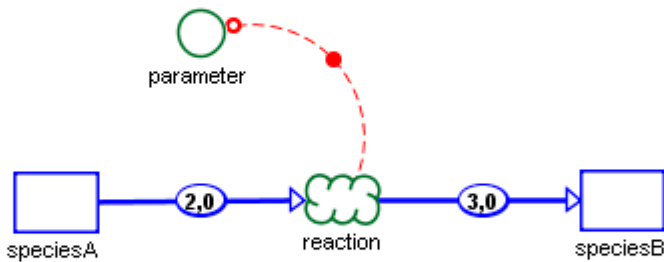
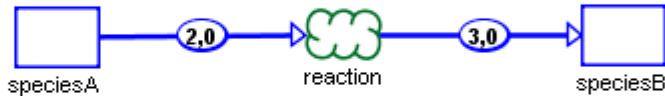


Multiple Representations



Glycolysis - subset of reactions taken from Klipp, E. et al., *Systems Biology in Practice: Concepts, Implementation and Application*. Wiley-VCH, Weinheim. 2005, ISBN 3-527-31078-9. (Page 138)

SBML compatibility



```
<species id="speciesA"...>
```

```
<reaction id="reaction" reversible="false">
```

```
<listOfReactants>
```

```
<speciesReference species="speciesA"  
  stoichiometry="2.0">
```

```
</listOfReactants>
```

```
<speciesReference species="speciesB"  
  stoichiometry="3.0">
```

```
<parameter id="parameter" value="2" constant="true">
```

```
<assignmentRule variable="parameter">
```

```
<eventAssignment variable="parameter">
```

```
<compartment id="compartment">
```

Website – www.narrator-tool.org

Narrator Tool - Microsoft Internet Explorer

Adresse <http://www.narrator-tool.org/>

Narrator

transcription enzyme complex degrade rate degradation

Home | News | Narrator People | Contact | Developers corner

Home > Test Narrator

Note: Narrator runs with Java 5.0!

Login

Getting started
Manual
Tutorial
Test Narrator
Downloads
Screenshots
Publications

Phosphorelay

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Reporters

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x: 579 y: 405 Ready

Applet de/fh_weihenstephan/narrator/application/Narrator started