SBGN-Discussion

LIBSBGN

What‘s next

- Release (Soon - October 2011)
- More detailed graphics
  - Roundness of rounded rectangles
  - Arrow-glyph size
  - Line thickness
  - …
- Better handling of submaps

WISHES?

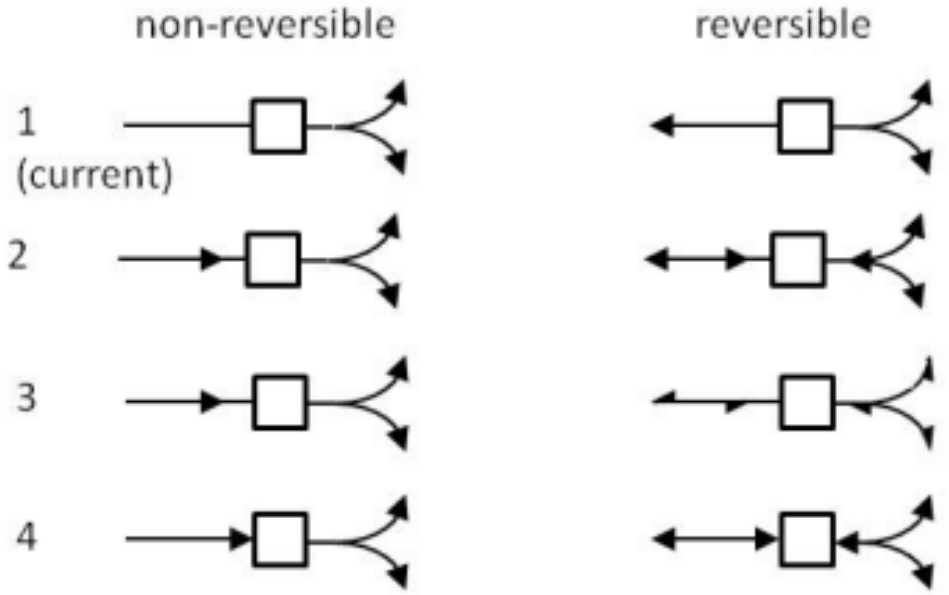
SBGN-ML roadmap

- Milestone 1 released (Jan. 2011)
  - Only support for SBGN PD
  - Only high-level graphics specification
  - Basic validation using XML Schema
- Milestone 2 (planned for Oct. 2011)
  - Implement semantics for all 3 languages: SBGN PD, ER and AF
  - Extra validation using Schematron
  - Third-party extensibility
- Milestone 3
  - Complete graphical specification
  - Submaps…
- Milestone 4
  - Linking, MIRIAM compatibility, …

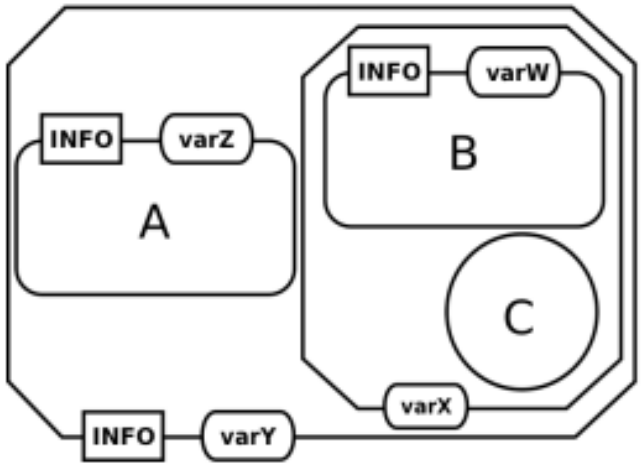
WISHES?

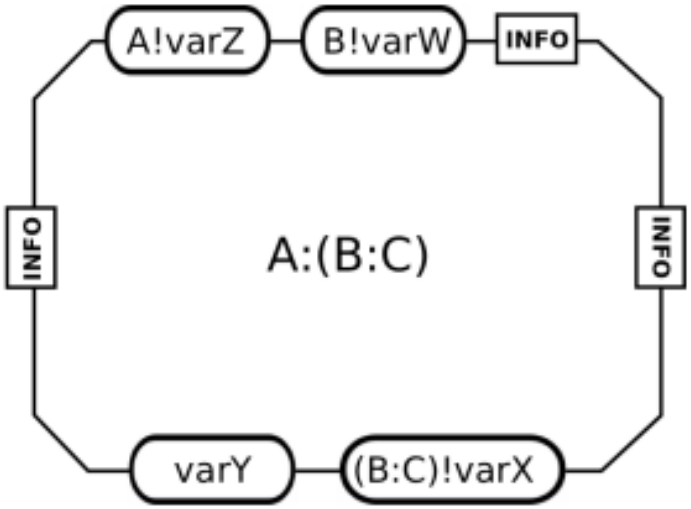
PROCESS DESCRIPTION

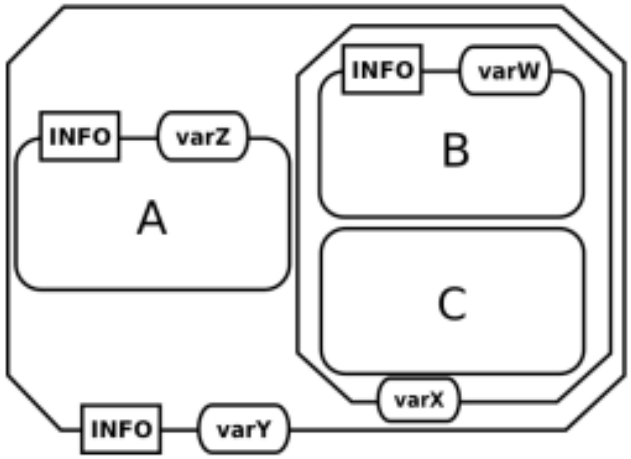
For Discussion: Reversible Arcs

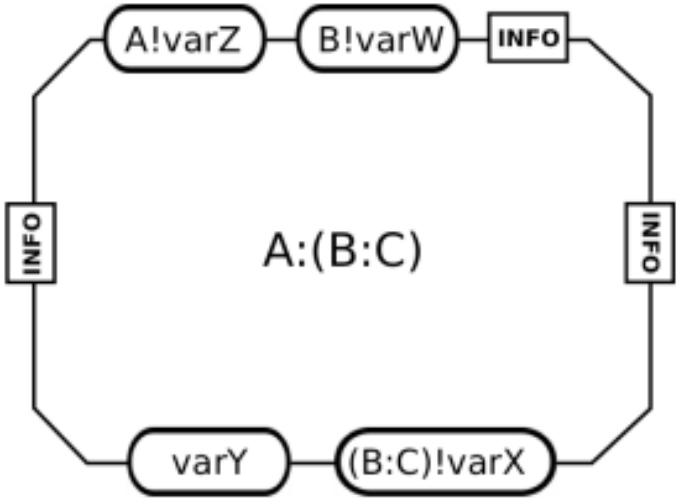


Complex Identity









Are glyphs inside decorators?

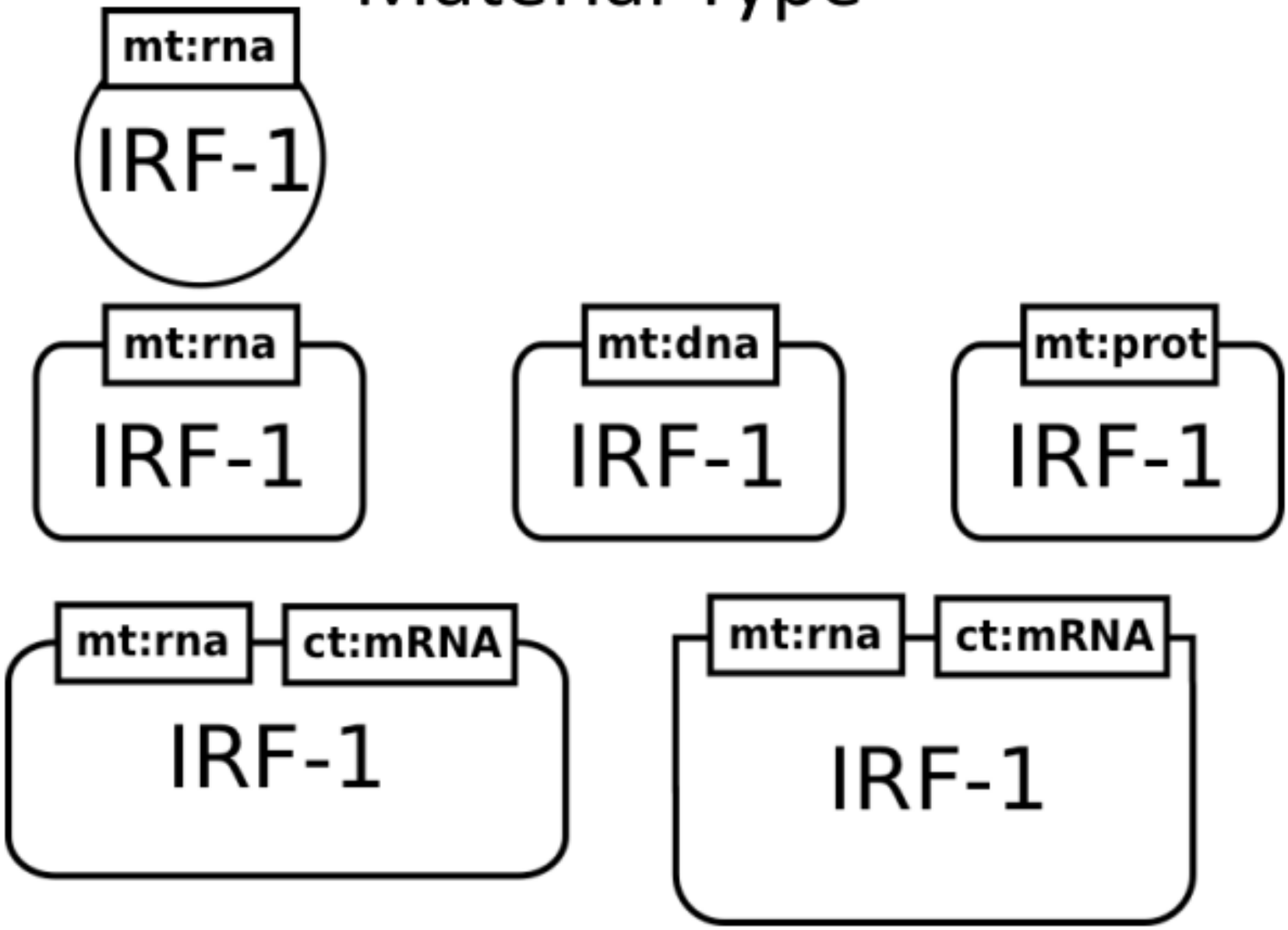
Material type vs. conceptual type

- indicates its chemical structure according to SBO
- indicates its function

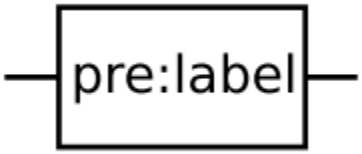
Name	Label
Non-macromolecular ion	`mt:ion`
Non-macromolecular radical	`mt:rad`
Ribonucleic acid	`mt:rna`
Deoxribonucleic acid	`mt:dna`
Protein	`mt:prot`
Polysaccharide	`mt:psac`

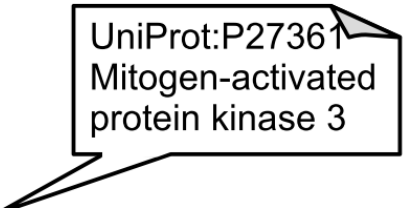
Name	Label
Gene	`ct:gene`
Transcription start site	`ct:tss`
Gene coding region	`ct:coding`
Gene regulatory region	`ct:grr`
Messenger RNA	`ct:mRNA`

Material Type



Unit of information vs. annotation





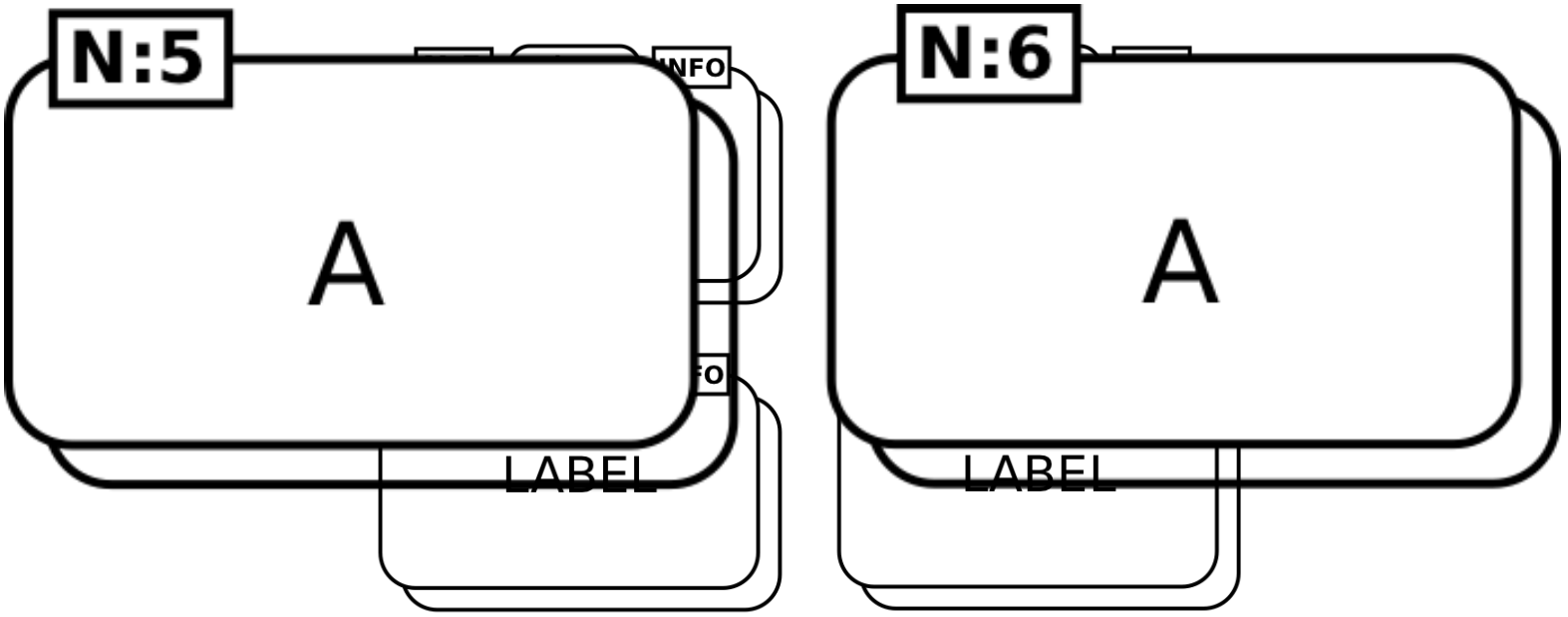
SPEC:
The unit of information is a decoration that can be used in this situation to add information to a glyph.

AS: The benefit of UoI is its size. Annotation glyph is **too big** to be used with all EPNs on the map, but UoI is compact and can be drawn on each element of the diagram.

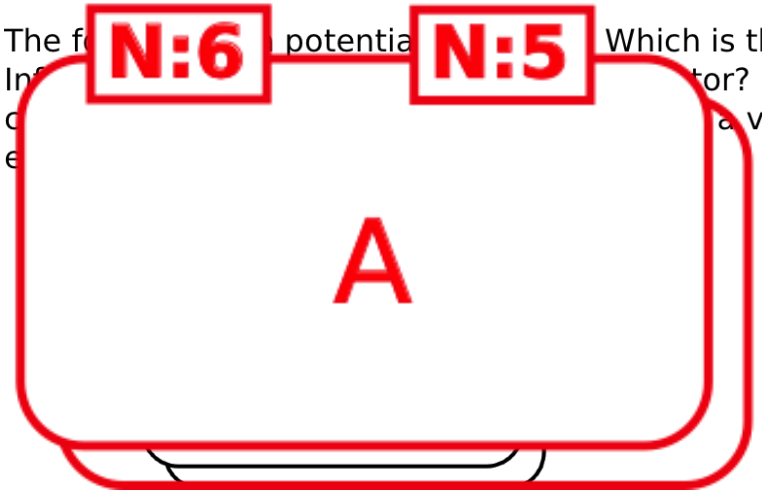
NlN: It seems that we are moving towards a situation where ***every decoration*** is an attribute, including the unit of information, that all must have the form prefix:value. Is-there any unit of information that is not following that pattern?

NlN: **ENV!mt:rna!ct:gene and ENV!mt:dna!ct:gene?** those should not be used to defined the identity of the EPNs. We should label them, in my example as vENV and cENV for instance (for viral and cellular).

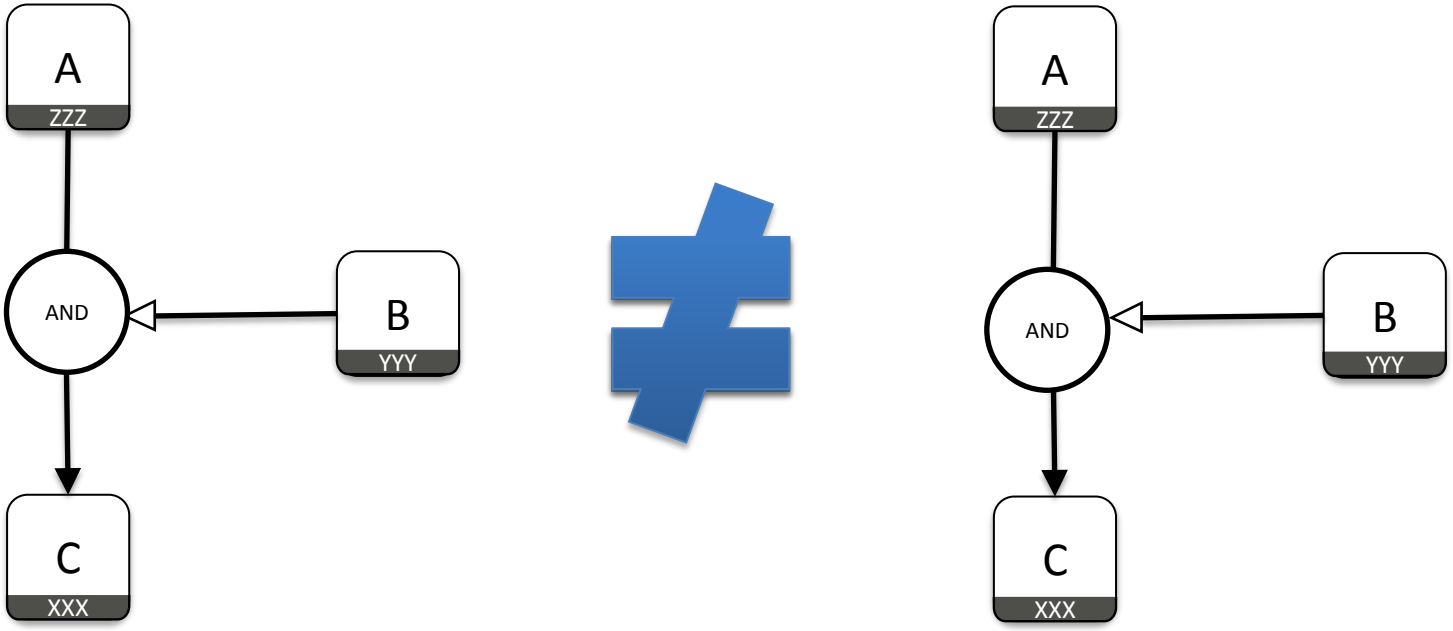
Cardinality Glyph



The f potentia Which is the Unit of
In tor? Or are both
c a validation
e

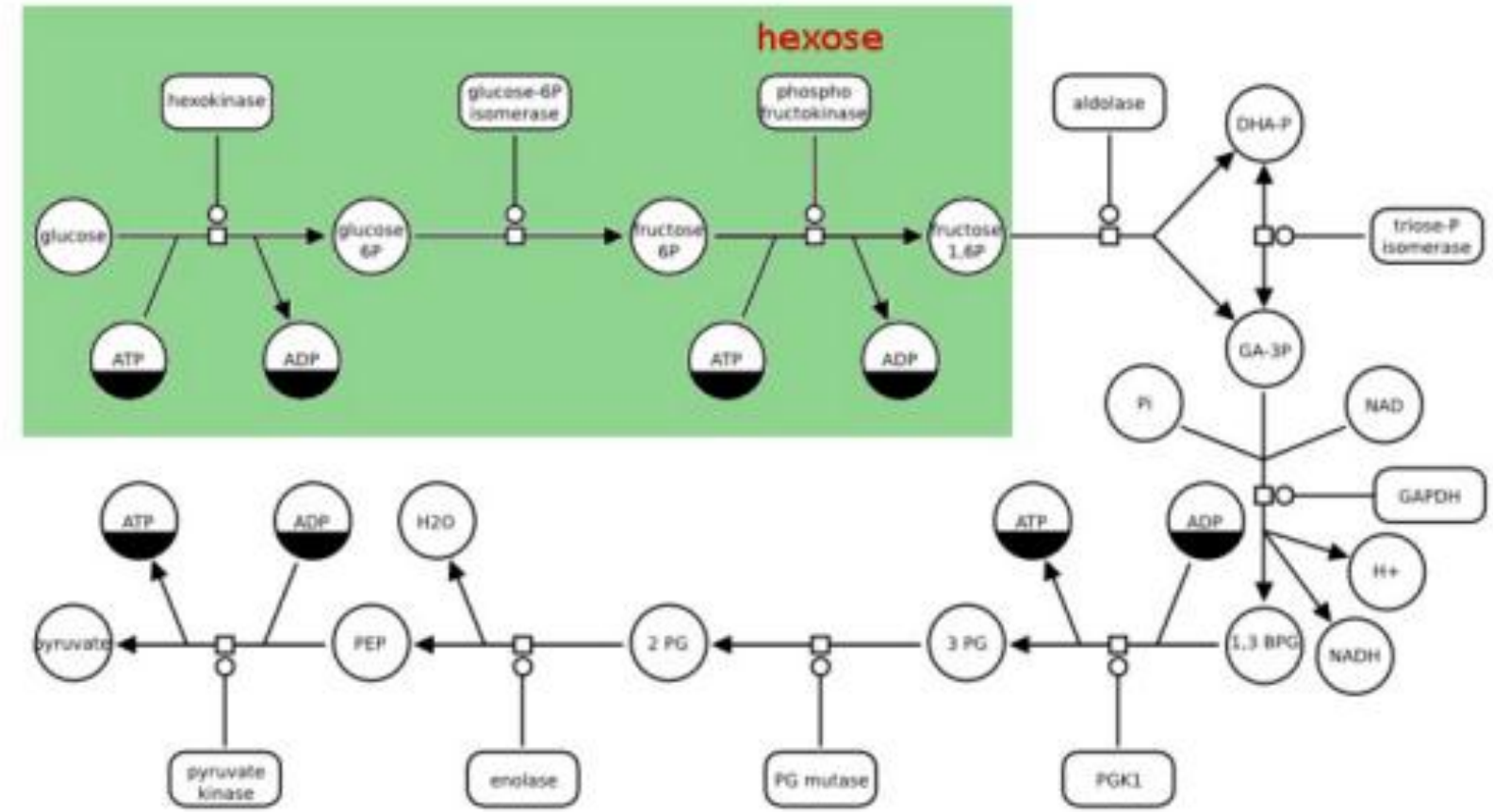


Identity of Logic Gates

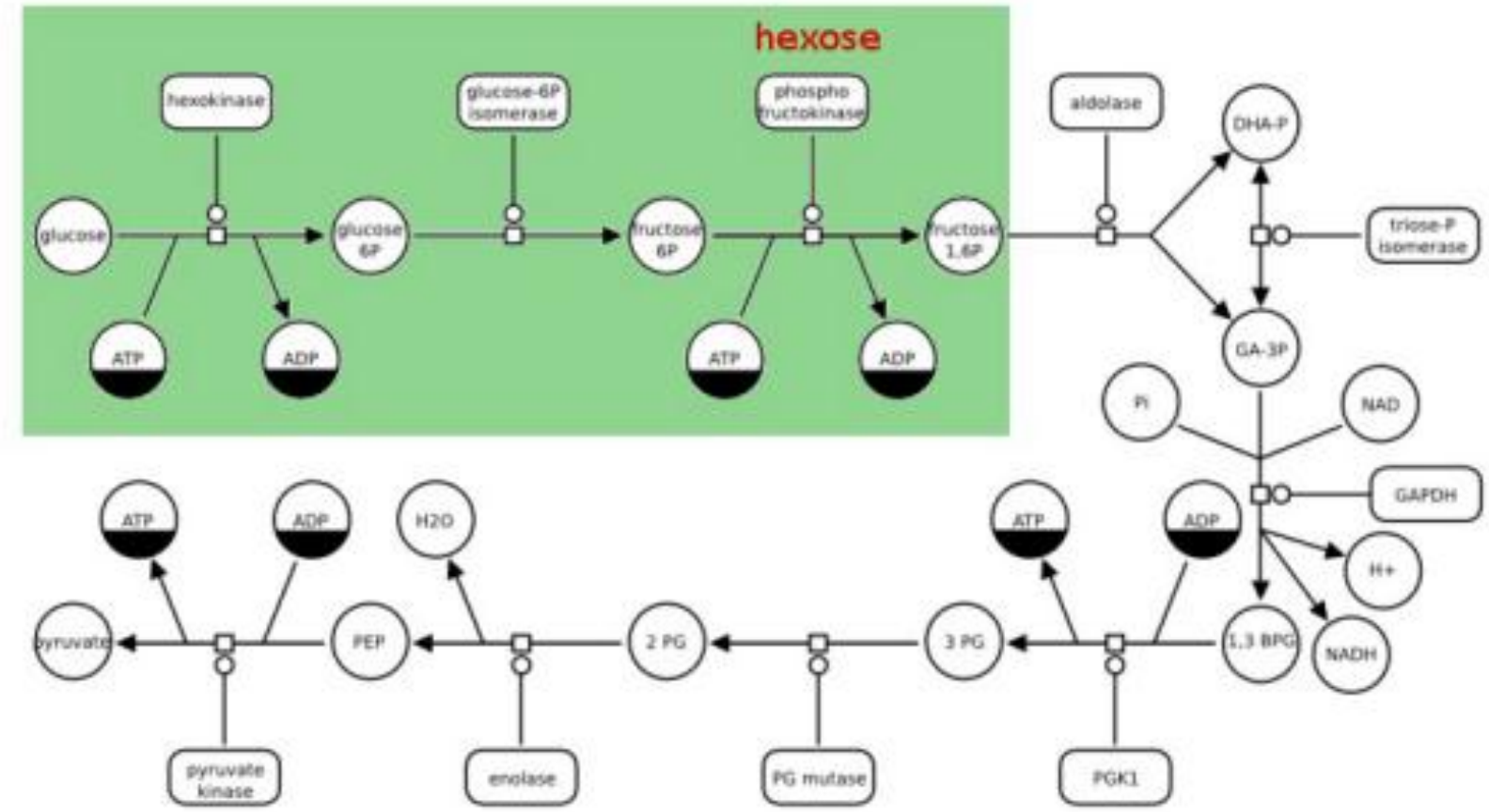


ENTITY RELATIONSHIP

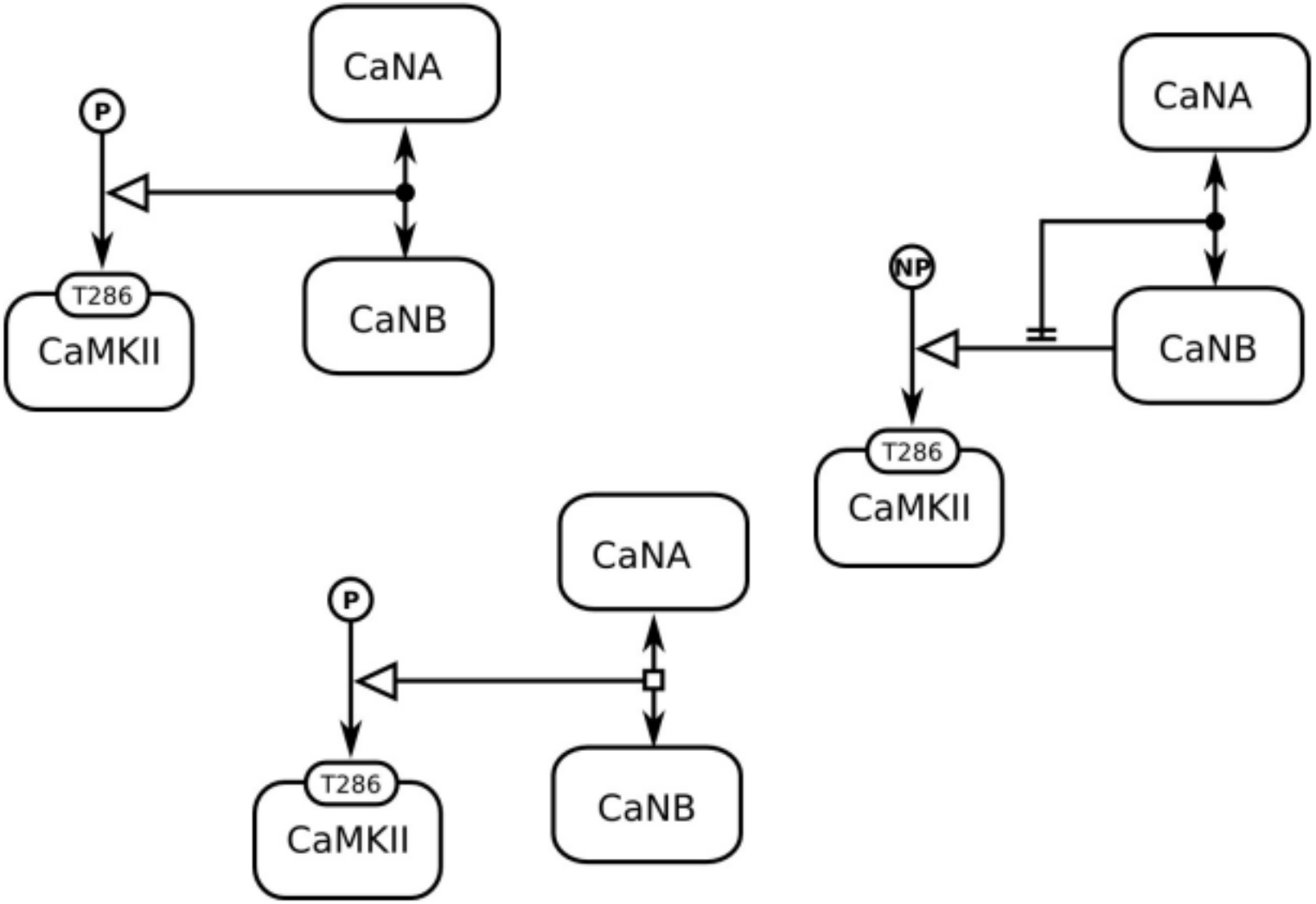
Should a group have a label?



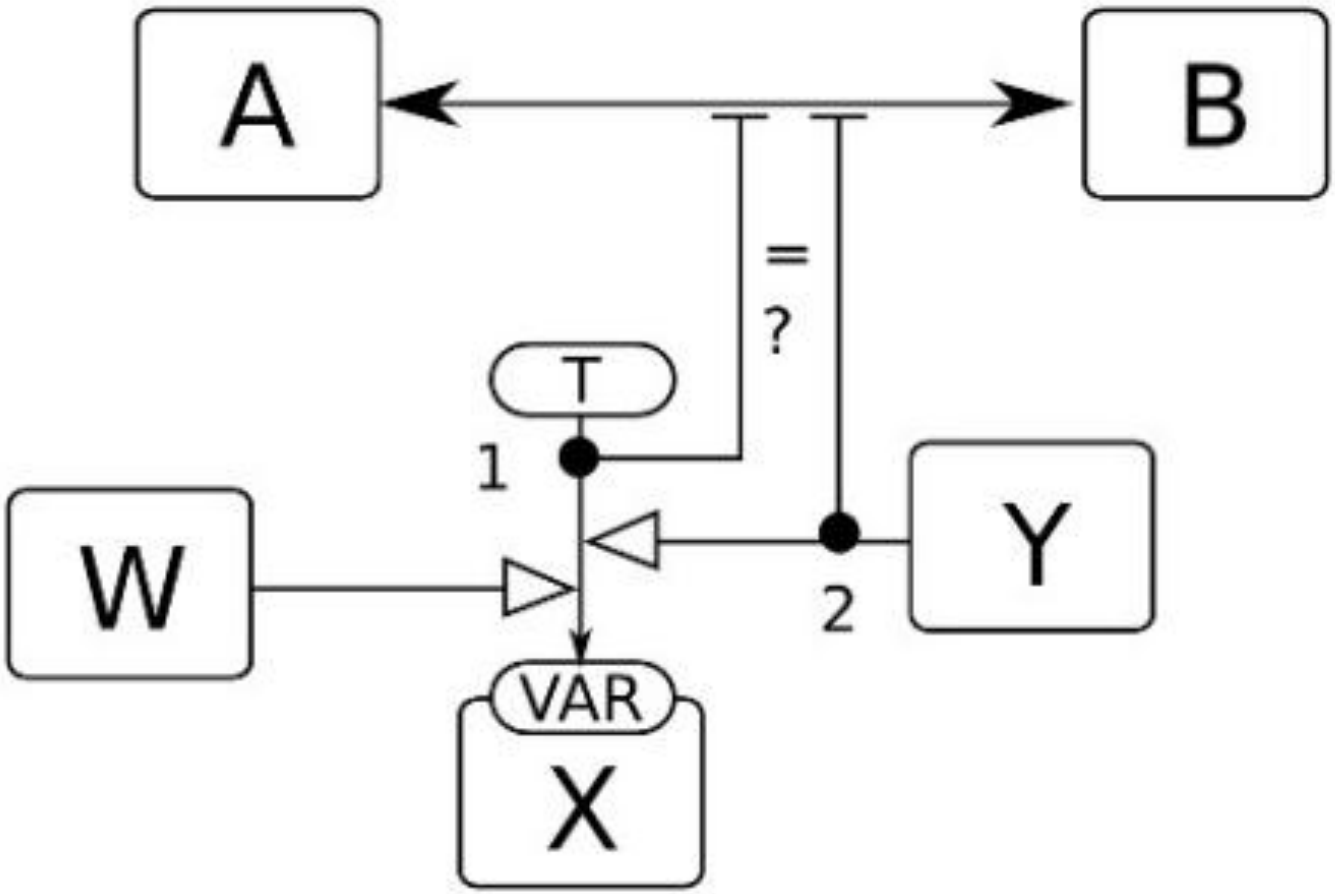
Should a group have an annotation?



Continuant Vs occurrent outcomes



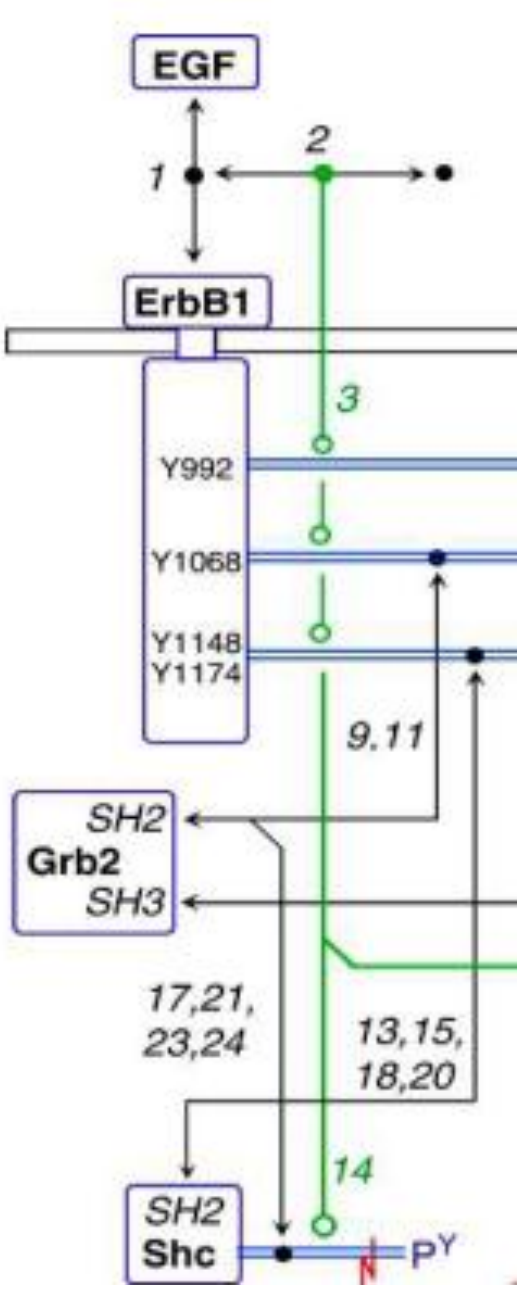
Outcome on influences



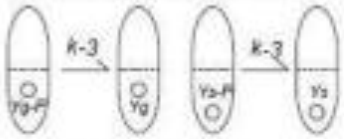
Why do we need delay?

Reduction?

- Show several activations in one arc?
- Details in annotations?

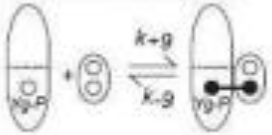


Dephosphorylation of unprotected tyrosine residues



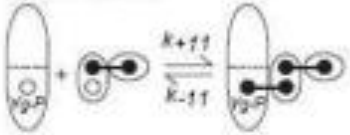
R(*,*,1,*)* <-> R(*,*,0,*)*
R(*,*,*,1)* <-> R(*,*,*,0)*

Grb2 binding to receptor phosphotyrosine



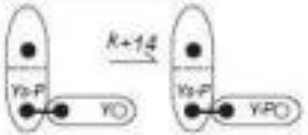
R(*,*,1,*)* + Grb2 <-> R(*,*,2,*)*

Grb2-Sos binding to receptor phosphotyrosine



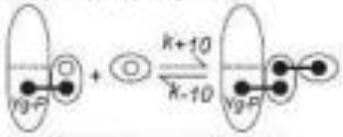
R(*,*,1,*)* + Grb2-Sos <-> R(*,*,3,*)*

Shc transphosphorylation by receptor kinase



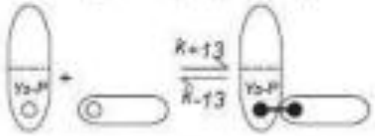
R(*,*,*,2)* -> R(*,*,*,3)*

Sos binding to Grb2 associated with receptor phosphotyrosine



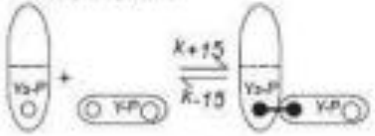
R(*,*,2,*)* + Sos <-> R(*,*,3,*)*

Shc binding to receptor phosphotyrosine



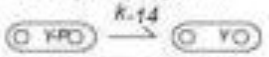
R(*,*,*,1)* + Shc <-> R(*,*,*,2)*

ShcP binding to receptor phosphotyrosine



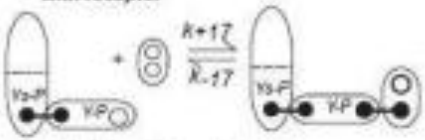
R(*,*,*,1)* + ShcP <-> R(*,*,*,3)*

Shc dephosphorylation



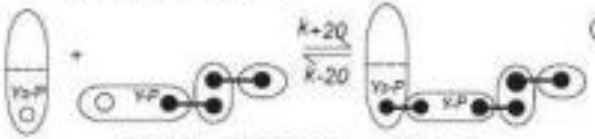
R(*,*,*,3) -> R(*,*,*,2)
ShcP-> Shc

Grb2 recruited to ShcP associated with receptor



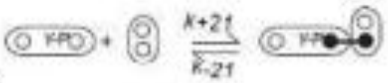
R(*,*,*,2)* + Grb2 <-> R(*,*,*,4)*

Shcp-Grb2-Sos binding to receptor phosphotyrosine



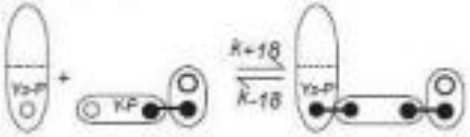
R(*,*,*,1)* + ShcP-Grb2-Sos <-> R(*,*,*,5)*

ShcP and Grb2 binding in cytosol



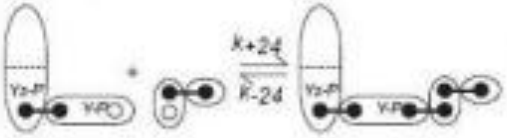
ShcP + Grb2 <-> ShcP-Grb2

ShcP-Grb2 binding to receptor phosphotyrosine



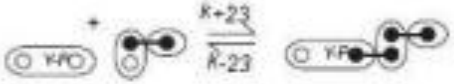
R(*,*,*,1)* + ShcP-Grb2 <-> R(*,*,*,4)*

Grb2-Sos binding to ShcP associated with receptor phosphotyrosine



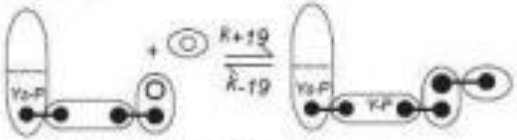
R(*,*,*,3)* + Grb2-Sos <-> R(*,*,*,5)*

ShcP and Grb2-Sos binding in cytosol



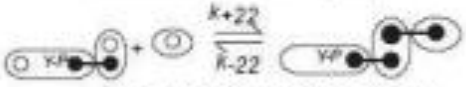
ShcP + Grb2-Sos <-> ShcP-Grb2-Sos

Sos binding to ShcP-Grb2 associated with receptor phosphotyrosine



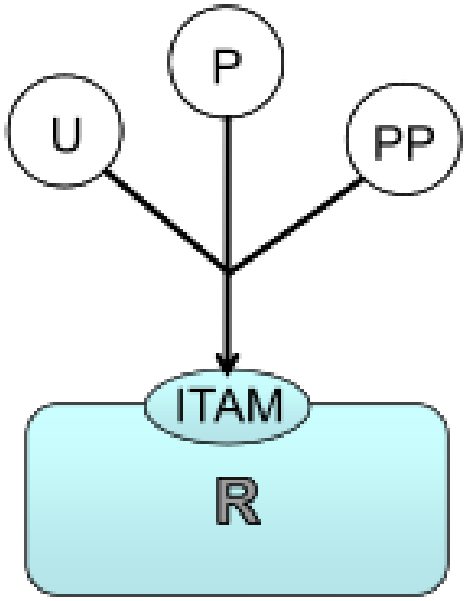
R(*,*,*,4)* + Sos <-> R(*,*,*,5)*

ShcP-Grb2 and Sos binding in cytosol



ShcP-Grb2 + Sos<-> ShcP-Grb2-Sos

ER?



R(ITAM~U) <-> R(ITAM~P) p,d

R(ITAM~P) <-> R(ITAM~PP) 0.1*p,0.1*d

R(ITAM~PP) -> R(ITAM~U) 0.01*d