A Biological patterns

This appendix presents the 11 patterns that compose the given RSTC network. Each table contains the pattern, as seen in the Cytoscape graph, on the left, and its Process Hitting translation on the right. The reaction and its specifics are explained in the legend.

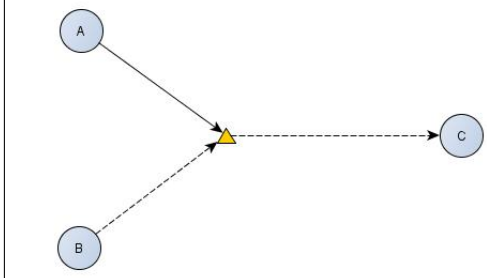
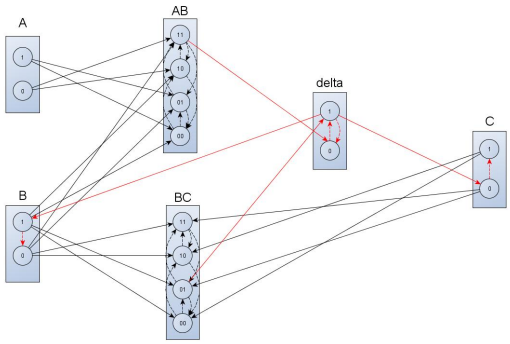
Biological pattern no.1	Process Hitting translation
	

Table 2: Molecules A and B cooperate to activate molecule C. After the activation of C, A remains active and B is desactivated. Sorts AB and BC are regular sorts, while the sort "delta" models the reaction's beginning/end. When both A and B are present, the reaction "begins" (the corresponding sort is activated by AB, it now has value 1), activating C and deactivating B. The reaction finishes (is deactivated by BC) when B and C have been set to the final values (0, resp. 1)

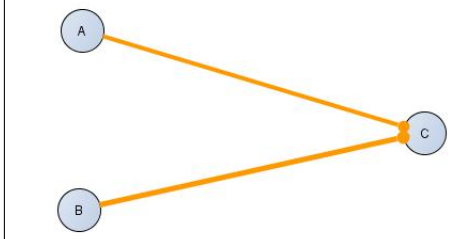
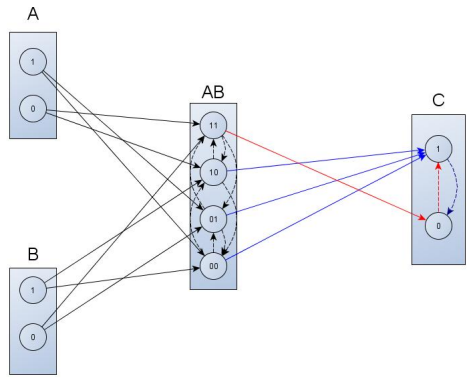
Biological pattern no.2	Process Hitting translation
	

Table 3: A and B cooperate to activate C, via the cooperative sort AB. Both A and B remain active after the end of the reaction

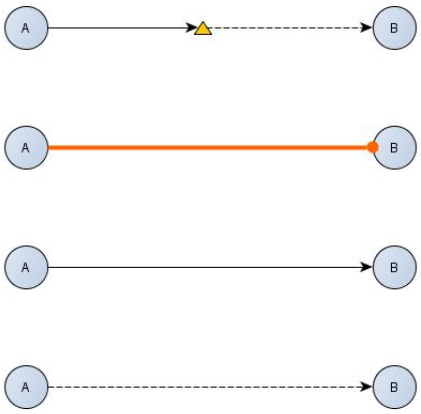
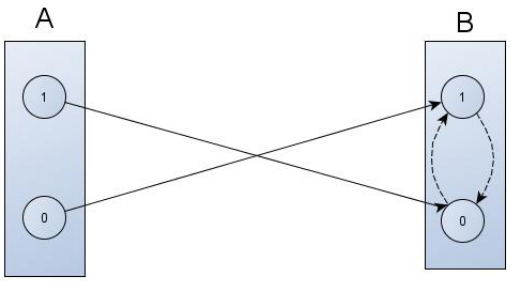
Biological pattern no.3	Process Hitting translation
	

Table 4: Different types of activation. The activation process follows the same logic as in Rene Thomas' networks: if the activating molecule is active, it activates its target molecule, but if it is deactivated, it also deactivates the target

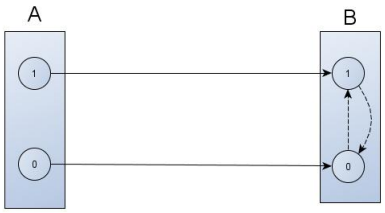
Biological pattern no.4	Process Hitting translation
	

Table 5: An inhibition reaction: the inhibitor's presence leads to the deactivation of its target, while its absence leads to the activation of the target

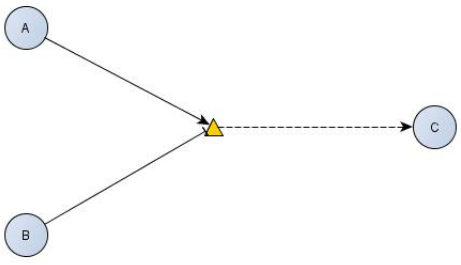
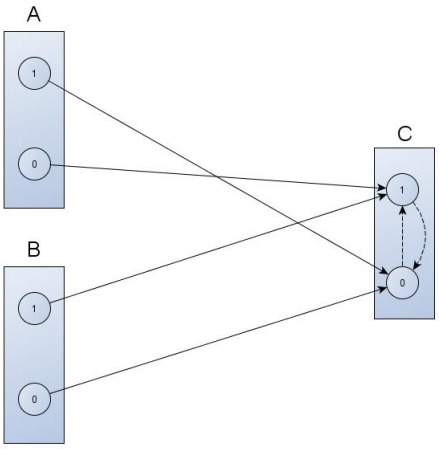
Biological pattern no.5	Process Hitting translation
	

Table 6: Molecule C is either activated by A, or inhibited by B; A and B are not cooperating to modify C, each one has an independent, opposite action on C

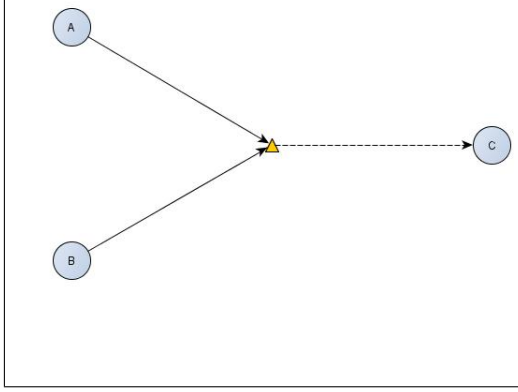
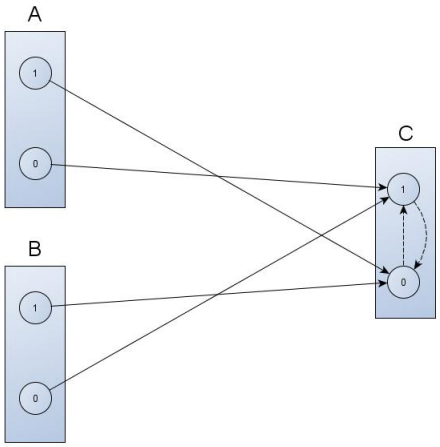
Biological pattern no.6	Process Hitting translation
	

Table 7: Molecule C is activated by either A, or B, independantly one from the other

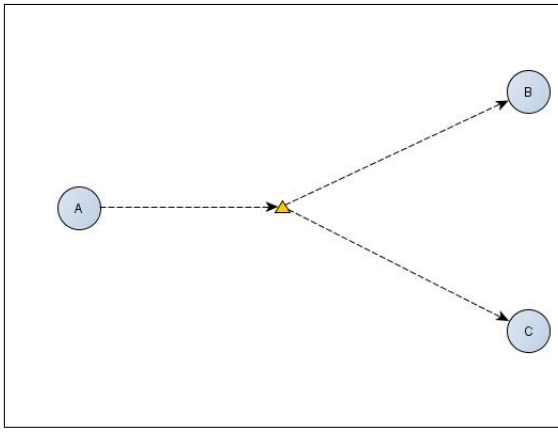
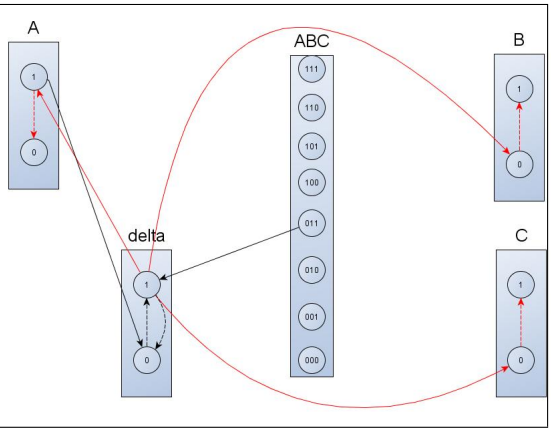
Biological pattern no.7	Process Hitting translation
	

Table 8: Complex A decomposes in components B and C. At the end of the reaction, A no longer exists/is no longer active. ABC is a regular cooperative sort and sort "delta" models the reaction, as explained in Pattern 1. For clarity purposes, the hits from A, B and C to the cooperative sort ABC have not been drawn.

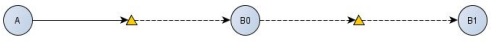
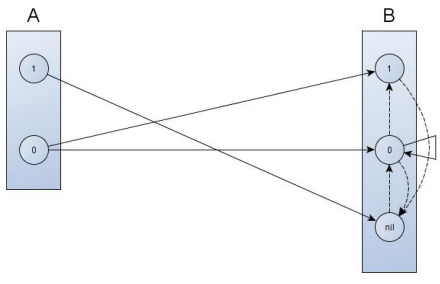
Biological pattern no.8	Process Hitting translation
	

Table 9: B0 and B1 represent the same biological entity - they are different processes of the same sort; A "creates" B, which then activates itself

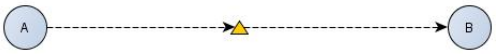
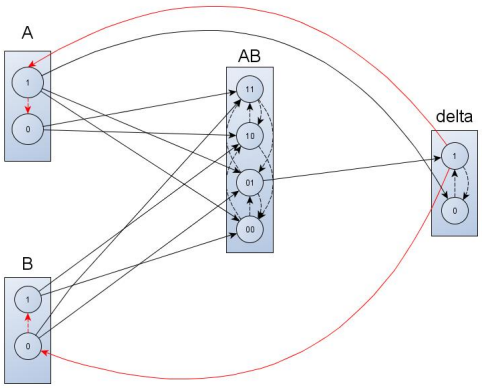
Biological pattern no.9	Process Hitting translation
	

Table 10: A modification reaction: A activates B, then dissapears; AB is a cooperative sort and the "delta" sort models the reaction - the reaction begins when A is present, and ends when A has been replaced by B

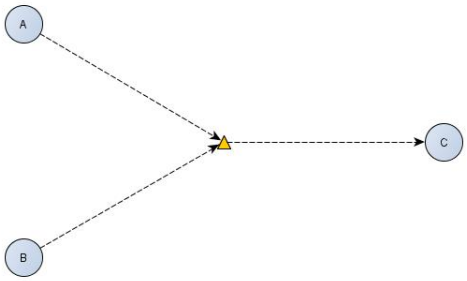
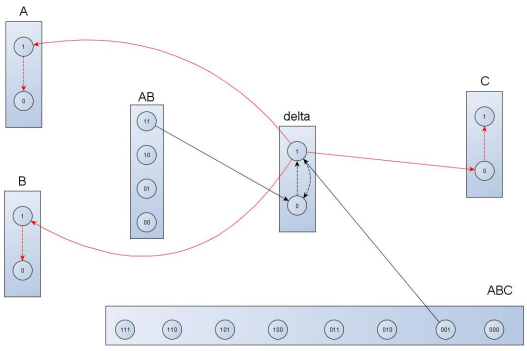
Biological pattern no.10	Process Hitting translation
	

Table 11: A composite modification: A and B cooperate to create C, then disappear. For clarity purposes, hits to cooperative sorts have not been drawn.

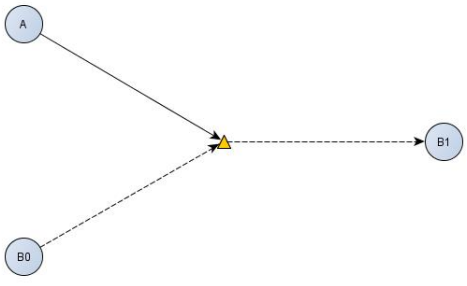
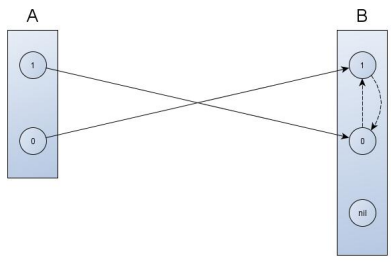
Biological pattern no.11	Process Hitting translation
	

Table 12: Activation of non-binary sort: similar to Pattern 1, except for the non-binarity of the target source - B0 and B1 represent the same entity. Unlike Pattern 8 (the other pattern dealing with non-binary sorts), entity B is already present, via the condition on B0, it just needs to be activates