Positive Feedback Subcircuit

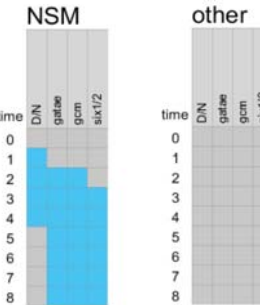|	
D/N	if <5 AND IN NSM then=1 else=0
gatae	if AT-1 D/N=1 OR AT-1 gcm=1 then=1 else=0
gcm	if AT-1 D/N=1 OR [AT-1 six1/2=1 AND AT-1 gcm=1] then=1 else=0
six1/2	if AT-1 gatae=1 then=1 else=0

D/N	if <2 AND IN NSM then=1 else=0
gatae	if AT-1 D/N=1 OR AT-1 gcm=1 then=1 else=0
gcm	if AT-1 D/N=1 OR [AT-1 six1/2=1 AND AT-1 gcm=1] then=1 else=0
six1/2	if AT-1 gatae=1 then=1 else=0

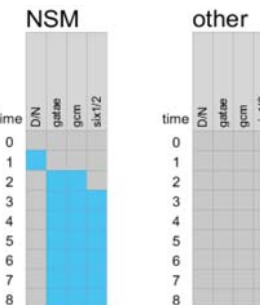|	
D/N	if <5 AND IN NSM then=1 else=0
gatae	if AT-1 D/N=1 OR AT-1 gcm=1 then=1 else=0
gcm	if AT-1 D/N=1 then=1 else=0
six1/2	if AT-1 gatae=1 then=1 else=0

D/N	if <5 AND IN NSM then=1 else=0
gatae	if AT-1 D/N=1 OR AT-1 gcm=1 then=1 else=0
gcm	if AT-1 D/N=1 OR [AT-1 six1/2=1 OR AT-1 gcm=1] then=1 else=0
six1/2	if AT-1 gatae=1 then=1 else=0

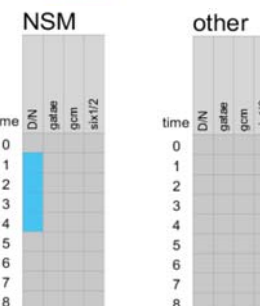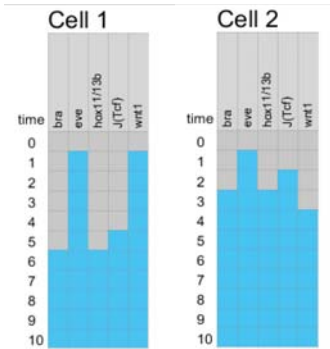|	
D/N	if <2 AND IN NSM then=1 else=0
gatae	if AT-1 D/N=1 OR AT-1 gcm=1 then=1 else=0
gcm	if AT-1 D/N=1 OR [AT-1 six1/2=1 OR AT-1 gcm=1] then=1 else=0
six1/2	if AT-1 gatae=1 then=1 else=0

|	
D/N	if <5 AND IN NSM then=1 else=0
gatae	if AT-1 D/N=1 AND AT-1 gcm=1 then=1 else=0
gcm	if AT-1 D/N=1 AND [AT-1 six1/2=1 AND AT-1 gcm=1] then=1 else=0
six1/2	if AT-1 gatae=1 then=1 else=0

Community Effect

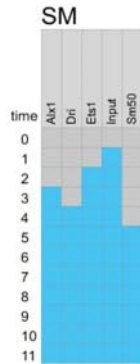| bra	if AT-1 hox11/13b=1 OR AT-1 J(Tcf)=1 then=1 else=0
eve	if >0 then=1 else=0
hox11/13b	if AT-1 J(Tcf)=1 AND AT-1 eve=1 then=1 else=0
J(Tcf)	if AT-1 wnt1=1 IN NCC_n R then=1 else=0
wnt1	M1 if [<7 AND IN Cell 1] OR [AT-1 hox11/13b=1 AND AT-1 J(Tcf)=1] then=1 else=0
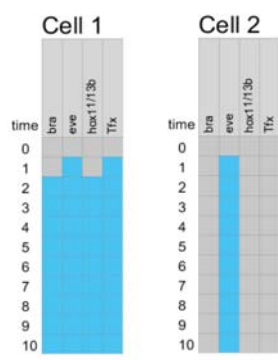
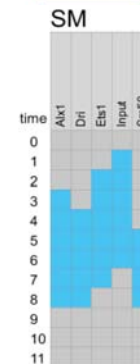| bra	if AT-1 hox11/13b=1 OR AT-1 Tfx=1 then=1 else=0
eve	if >0 then=1 else=0
hox11/13b	if AT-1 Tfx=1 AND AT-1 eve=1 then=1 else=0
Tfx	if [<4 AND IN Cell 1] OR AT-1 hox11/13b=1 then=1 else=0
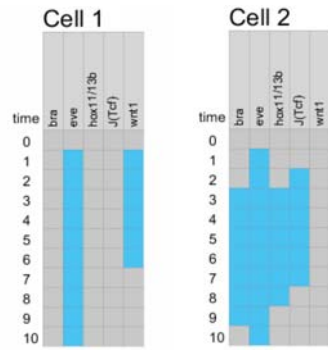
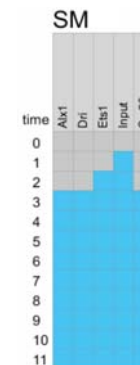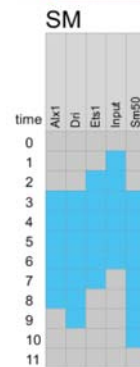| bra	if AT-1 hox11/13b=1 OR AT-1 J(Tcf)=1 then=1 else=0
eve	if >0 then=1 else=0
hox11/13b	if AT-1 J(Tcf)=1 AND AT-1 eve=1 then=1 else=0
J(Tcf)	if AT-1 wnt1=1 IN NCC_n R then=1 else=0
wnt1	M1 if [<7 AND IN Cell 1] then=1 else=0

Coherent Feedforward

Alx1	if AT-1 Ets1=1 then=1 else=0
Dri	if AT-1 Ets1=1 AND AT-1 Alx1=1 then=1 else=0
Ets1	if AT-1 Input=1 then=1 else=0
Input	if IN SM then=1 else=0
Sm50	if AT-1 Ets1=1 AND AT-1 Alx1=1 AND AT-1 Dri=1 then=1 else=0

Alx1	if AT-1 Ets1=1 then=1 else=0
Dri	if AT-1 Ets1=1 AND AT-1 Alx1=1 then=1 else=0
Ets1	if AT-1 Input=1 then=1 else=0
Input	if <7 AND IN SM then=1 else=0
Sm50	if AT-1 Ets1=1 AND AT-1 Alx1=1 AND AT-1 Dri=1 then=1 else=0

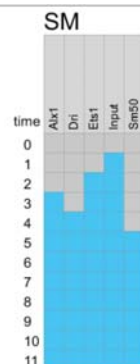|	
Alx1	if AT-1 Ets1=1 then=1 else=0
Dri	if AT-1 Ets1=1 OR AT-1 Alx1=1 then=1 else=0
Ets1	if AT-1 Input=1 then=1 else=0
Input	if IN SM then=1 else=0
Sm50	if AT-1 Ets1=1 OR AT-1 Alx1=1 OR AT-1 Dri=1 then=1 else=0

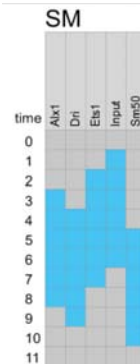|	
Alx1	if AT-1 Ets1=1 then=1 else=0
Dri	if AT-1 Ets1=1 OR AT-1 Alx1=1 then=1 else=0
Ets1	if AT-1 Input=1 then=1 else=0
Input	if <7 AND IN SM then=1 else=0
Sm50	if AT-1 Ets1=1 OR AT-1 Alx1=1 OR AT-1 Dri=1 then=1 else=0

Alx1	if AT-1 Ets1=1 then=1 else=0
Dri	if AT-1 Alx1=1 then=1 else=0
Ets1	if AT-1 Input=1 then=1 else=0
Input	if IN SM then=1 else=0
Sm50	if AT-1 Dri=1 then=1 else=0

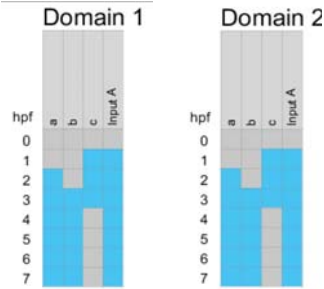|	
Alx1	if AT-1 Ets1=1 then=1 else=0
Dri	if AT-1 Alx1=1 then=1 else=0
Ets1	if AT-1 Input=1 then=1 else=0
Input	if <7 AND IN SM then=1 else=0
Sm50	if AT-1 Dri=1 then=1 else=0

Incoherent Feedforward
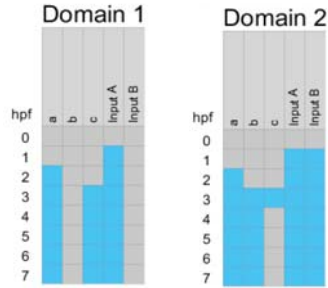
| a	if AT-1 Input A=1 then=1 else=0
b	if AT-1 Input B=1 AND AT-1 a=1 then=1 else=0
c	if AT-1 a=1 AND NOT AT-1 b=1 then=1 else=0
Input A	1 if IN Domain 1 OR IN Domain 2 then=1 else=0
Input B	if IN Domain 2 then=1 else=0

a	if AT-1 Input A=1 then=1 else=0
b	if AT-1 a=1 then=1 else=0
c	if NOT AT-1 b=1 then=1 else=0
Input A	1 if IN Domain 1 OR IN Domain 2 then=1 else=0

Mutual Repression
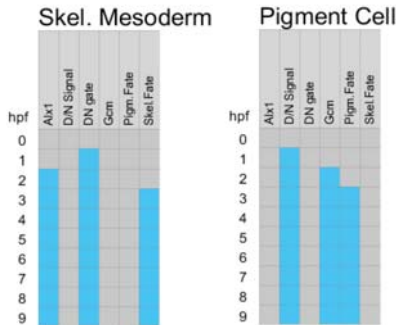
Alx1	if AT-1 DN gate=1 AND NOT AT-1 Gcm=1 then=1 else=0
D/N Signal	if IN Pigment Cell then=1 else=0
DN gate	if IN Skel. Mesoderm then=1 else=0
Gcm	if AT-1 D/N Signal=1 AND NOT AT-1 Alx1=1 then=1 else=0
Pigm.Fate	if AT-1 Gcm=1 then=1 else=0
Skel.Fate	if AT-1 Alx1=1 then=1 else=0
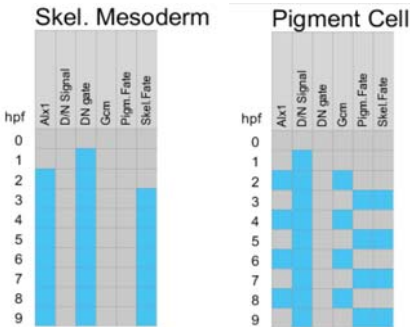
Alx1	if AT-1 DN gate=1 OR AT-1 D/N Signal=1 AND NOT AT-1 Gcm=1 then=1 else=0
D/N Signal	if IN Pigment Cell then=1 else=0
DN gate	if IN Skel. Mesoderm then=1 else=0
Gcm	if AT-1 D/N Signal=1 AND NOT AT-1 Alx1=1 then=1 else=0
Pigm.Fate	if AT-1 Gcm=1 then=1 else=0
Skel.Fate	if AT-1 Alx1=1 then=1 else=0
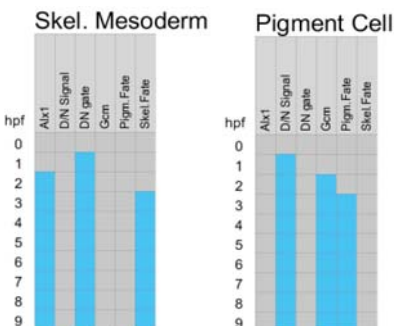
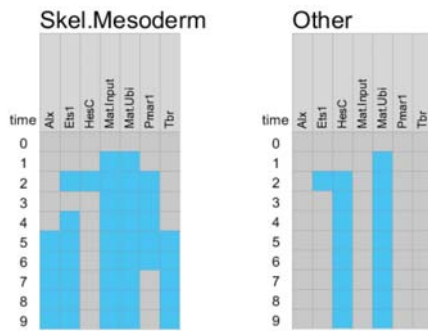| Alx1	if AT-1 DN gate=1 OR AT-2 D/N Signal=1 AND NOT AT-1 Gcm=1 then=1 else=0
D/N Signal	if IN Pigment Cell then=1 else=0
DN gate	if IN Skel. Mesoderm then=1 else=0
Gcm	if AT-1 D/N Signal=1 AND NOT AT-1 Alx1=1 then=1 else=0
Pigm.Fate	if AT-1 Gcm=1 then=1 else=0
Skel.Fate	if AT-1 Alx1=1 then=1 else=0

Doule Negative Gate

Alx	if AT-1 Ets1=1 AND NOT AT-1 HesC=1 then=1 else=0
Ets1	if AT-1 Mat.Ubi=1 AND NOT AT-1 HesC=1 then=1 else=0
HesC	if AT-1 Mat.Ubi=1 AND PERM-1 Pmar1=1 then=1 else=0
Mat.Input	if IN Skel.Mesoderm then=1 else=0
Mat.Ubi	if IN Skel.Mesoderm OR IN Other then=1 else=0
Pmar1	if AT-1 Mat.Input=1 AND <7 then=1 else=0
Tbr	if AT-1 Ets1=1 AND NOT AT-1 HesC=1 then=1 else=0

Signal-mediated Toggle Switch
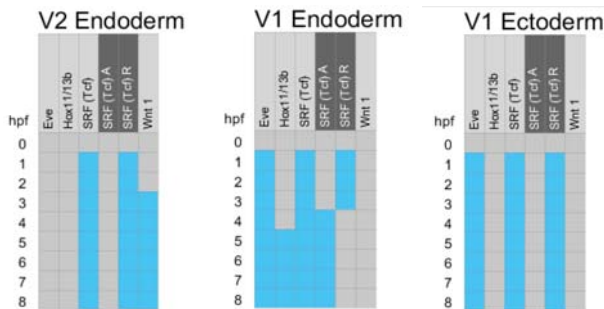
Eve	if IN V1 Endoderm OR IN V1 Ectoderm OR IN no SRF then=1 else=0
Hox11/13b	if AT-1 Eve=1 OR AT-1 SRF (Tcf) A=1 AND NOT AT-1 SRF (Tcf) R=1 then=1 else=0
SRF (Tcf)	if IN V2 Endoderm OR IN V1 Endoderm OR IN V1 Ectoderm then=1 else=0
SRF (Tcf) A	if SRF (Tcf)=1 AND AT-1 Wnt 1=1 IN NCC_n R then=1 else=0
SRF (Tcf) R	if SRF (Tcf)=1 AND NOT SRF (Tcf) A=1 then=1 else=0
Wnt 1	if >2 AND IN V2 Endoderm then=1 else=0

Domain	Definition	
V1 Endoderm	NCC_n_0-10	V2 Endoderm
	NCC_n_0-10	V1 Ectoderm
	NCC_d_0-10	no SRF
V2 Endoderm	NCC_n_0-10	V1 Endoderm
	NCC_d_0-10	V1 Ectoderm
	NCC_d_0-10	no SRF
V1 Ectoderm	NCC_d_0-10	V2 Endoderm
	NCC_n_0-10	V1 Endoderm
	NCC_d_0-10	no SRF
no SRF		