

Identification of a Topological Characteristic Responsible for the Biological Robustness of Regulatory Networks

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Table S6: The network of physical interactions between nuclear proteins
in the budding yeast (PI)

(Based on Refs. [1, 2])

CAT5 $\xrightarrow{+}$ CAT5	CAT5 $\xrightarrow{+}$ CAT8
CAT8 $\xrightarrow{+}$ CAT5	MIG2 $\xrightarrow{-}$ CAT8
MIG2 $\xrightarrow{-}$ HXT13	HXT13 $\xrightarrow{-}$ HXT13
SNF1 $\xrightarrow{+}$ CAT5	SNF1 $\xrightarrow{-}$ MIG1
MIG1 $\xrightarrow{-}$ CAT8	MIG1 $\xrightarrow{-}$ HXT13
MIG1 $\xrightarrow{-}$ HAP2	MIG1 $\xrightarrow{-}$ HAP4
MIG1 $\xrightarrow{-}$ GAL4	MIG1 $\xrightarrow{-}$ HXK1
HAP2 $\xrightarrow{+}$ HEM1	HAP4 $\xrightarrow{+}$ HEM1
GAL4 $\xrightarrow{+}$ GAL80	HXK1 $\xrightarrow{-}$ HXK2
HXK2 $\xrightarrow{-}$ HXK1	HXK2 $\xrightarrow{+}$ HXK2
GAL80 $\xrightarrow{-}$ GAL80	MSN4 $\xrightarrow{+}$ HXK1
MSN4 $\xrightarrow{+}$ RAS2	HOG1 $\xrightarrow{+}$ HXK1
HOG1 $\xrightarrow{+}$ RAS2	MSN2 $\xrightarrow{+}$ HXK1
MSN2 $\xrightarrow{+}$ RAS2	RAS2 $\xrightarrow{+}$ STE7
HEM1 $\xrightarrow{+}$ ROX1	SWI1 $\xrightarrow{+}$ HAP4
SWI1 $\xrightarrow{+}$ MCM1	SNF2 $\xrightarrow{+}$ HAP4
SNF2 $\xrightarrow{+}$ MCM1	MCM1 $\xrightarrow{+}$ SWI5
HAP3 $\xrightarrow{+}$ HEM1	HAP5 $\xrightarrow{+}$ HEM1
ROX1 $\xrightarrow{-}$ ROX1	HAP1 $\xrightarrow{+}$ ROX1
TUP1 $\xrightarrow{-}$ ROX1	TUP1 $\xrightarrow{-}$ RME1
TUP1 $\xrightarrow{-}$ IME1	SWI5 $\xrightarrow{+}$ RME1
NDD1 $\xrightarrow{+}$ SWI5	REB1 $\xrightarrow{+}$ SWI5
REB1 $\xrightarrow{+}$ SIN3	SIN3 $\xrightarrow{+}$ SWI1
SIN3 $\xrightarrow{+}$ RME1	RME1 $\xrightarrow{-}$ IME1
RME1 $\xrightarrow{+}$ CLN2	ACE2 $\xrightarrow{+}$ RME1
IME1 $\xrightarrow{-}$ IME1	IME1 $\xrightarrow{+}$ IME2
IME1 $\xrightarrow{+}$ RIM11	IME1 $\xrightarrow{+}$ RIM4
UME6 $\xrightarrow{-}$ RME1	UME6 $\xrightarrow{-}$ IME1
UME6 $\xrightarrow{-}$ IME2	UME6 $\xrightarrow{-}$ RIM4
UME6 $\xrightarrow{+}$ INO2	RIM8 $\xrightarrow{+}$ IME1
RIM13 $\xrightarrow{+}$ IME1	RIM9 $\xrightarrow{+}$ IME1
RPN4 $\xrightarrow{+}$ RPN1	RPN1 $\xrightarrow{+}$ IME1
RIM101 $\xrightarrow{+}$ IME1	IME4 $\xrightarrow{+}$ IME1
MCK1 $\xrightarrow{+}$ IME1	RIM15 $\xrightarrow{+}$ IME1
RIM15 $\xrightarrow{+}$ IME2	IME2 $\xrightarrow{-}$ IME1

(Continued on the next page.)

(Table S6 continued)

RIM11	$\xrightarrow{+}$	IME1	RIM11	$\xrightarrow{+}$	IME2
RIM11	$\xrightarrow{+}$	RIM4	RIM4	$\xrightarrow{+}$	IME2
SDS3	$\xrightarrow{-}$	IME2	RPD3	$\xrightarrow{-}$	IME2
CBK1	$\xrightarrow{-}$	IME2	CLN2	$\xrightarrow{+}$	CLN2
INO2	$\xrightarrow{+}$	INO2	INO2	$\xrightarrow{+}$	CDS1
INO2	$\xrightarrow{+}$	PGS1	CDS1	$\xrightarrow{-}$	PGS1
OPI1	$\xrightarrow{-}$	INO2	OPI1	$\xrightarrow{-}$	PGS1
PGS1	$\xrightarrow{+}$	PGS1	RHO	$\xrightarrow{+}$	PGS1
CRD1	$\xrightarrow{+}$	PGS1	INO4	$\xrightarrow{+}$	INO2
INO4	$\xrightarrow{+}$	CDS1	INO4	$\xrightarrow{+}$	PGS1
INO4	$\xrightarrow{+}$	INO4	HYM1	$\xrightarrow{-}$	IME2
STE12	$\xrightarrow{+}$	HYM1	STE12	$\xrightarrow{+}$	STE12
STE12	$\xrightarrow{+}$	FAR1	STE12	$\xrightarrow{+}$	CLN1
BCK2	$\xrightarrow{+}$	CLN2	FAR1	$\xrightarrow{-}$	CLN2
CLN1	$\xrightarrow{+}$	CLN2	SIT4	$\xrightarrow{+}$	CLN2
SIT4	$\xrightarrow{+}$	CLN1	SWI6	$\xrightarrow{+}$	CLN2
SWI6	$\xrightarrow{+}$	CLN1	SWI6	$\xrightarrow{+}$	SWI4
SWI4	$\xrightarrow{+}$	CLN2	SWI4	$\xrightarrow{+}$	CLN1
SPT16	$\xrightarrow{+}$	CLN2	SPT16	$\xrightarrow{+}$	CLN1
SPT16	$\xrightarrow{+}$	SWI6	SPT16	$\xrightarrow{+}$	SWI4
SPT16	$\xrightarrow{+}$	SPT16	SPT16	$\xrightarrow{+}$	CLN3
SPT16	$\xrightarrow{+}$	HTA1	SPT16	$\xrightarrow{+}$	HTB1
CLN3	$\xrightarrow{+}$	CLN2	CLN3	$\xrightarrow{+}$	CLN1
CLN3	$\xrightarrow{+}$	SWI4	STE7	$\xrightarrow{+}$	CLN1
TEC1	$\xrightarrow{+}$	CLN1	XBP	$\xrightarrow{-}$	CLN1
XBP	$\xrightarrow{-}$	CLN3	PDR1	$\xrightarrow{+}$	XBP
PDR1	$\xrightarrow{+}$	PDR3	PDR1	$\xrightarrow{+}$	YRR1
PDR3	$\xrightarrow{+}$	PDR3	YRR1	$\xrightarrow{+}$	YRR1
HTA1	$\xrightarrow{+}$	HTB1	HTB1	$\xrightarrow{+}$	HTB1
SPT5	$\xrightarrow{+}$	HTA1	SPT5	$\xrightarrow{+}$	HTB1
SPT10	$\xrightarrow{+}$	HTA1	SPT21	$\xrightarrow{+}$	HTA1
SPT4	$\xrightarrow{+}$	HTA1	SPT4	$\xrightarrow{+}$	HTB1
SPT6	$\xrightarrow{+}$	HTA1	SPT6	$\xrightarrow{+}$	HTB1
HTA2	$\xrightarrow{+}$	HTB1			

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1. Li FT, Jia X (2006) Dynamical analysis of protein regulatory network in budding yeast nucleus. Chin Phys Lett 23:2307.
 2. Maslov S, Sneppen K (2002) Specificity and stability in topology of protein networks. Science 296:910.