

Appendix S2: Tables of multiplicity ratios (MRs) for the *E. coli* SOS network

Table S1. The adjacency matrix of the SOS network according to Table S4 of [1]. A value 1 in the entry (i, j) of the table corresponds to a link from the gene indexed by j to the gene indexed by i . A value of 0 means that no link was reported in that direction; self links (i.e. loops) are not shown.

	dinI	lexA	recA	recF	rpoD	rpoH	rpoS	ssb	umuC/D
dinI		1	1	1	1	0	0	1	1
lexA	1		1	1	1	0	0	1	1
recA	1	1		1	1	0	0	1	1
recF	0	0	0		1	0	1	0	0
rpoD	1	1	1	1		1	0	1	1
rpoH	0	0	0	0	1		0	0	0
rpoS	0	0	0	0	1	0		0	0
ssb	1	1	1	1	1	0	0		1
umuC/D	1	1	1	1	1	0	0	1	

Table S2. The MR for different links in the SOS network inferred using List-SP for $k = 4$. A value 1 in the entry (i, j) of the table corresponds to a link from the gene indexed by j to the gene indexed by i . A value of 0 shows that no link was found in that direction, in any run of the algorithm.

	dinI	lexA	recA	recF	rpoD	rpoH	rpoS	ssb	umuC/D
dinI		1	0.7	0	0	0	0	0	1
lexA	1		1	0	0	0	0	0	0.4
recA	0.8	1		0	0	0	0	0	0.7
recF	0.1	0	0.1		1	0	0	0	0.6
rpoD	0	0	0	1		1	0	0	0
rpoH	0	0	0	0	1		0	0	0
rpoS	0	0	0	0	0	0		0.1	0
ssb	1	0.2	0	0	0.1	0	0		1
umuC/D	1	1	0.4	0	0	0	0	0	

Table S3. The MR for different links in the SOS network inferred using List-SP for $k = 5$. A value 1 in the entry (i, j) of the table corresponds to a link from the gene indexed by j to the gene indexed by i . A value of 0 shows that no link was found in that direction, in any run of the algorithm.

	dinI	lexA	recA	recF	rpoD	rpoH	rpoS	ssb	umuC/D
dinI		1	0.8	0	0	0	0	0	1
lexA	1		1	0	0	0.1	0	0	0.7
recA	0.9	1		0	0.1	0	0	0	0.9
recF	0.1	0	0.1		1	0	0	0	0.6
rpoD	0.1	0	0	1		1	0	0	0.1
rpoH	0	0	0	0	1		0	0	0
rpoS	0.1	0	0	0	0.1	0		0.1	0.1
ssb	1	0.3	0	0	0.1	0	0		1
umuC/D	1	1	0.7	0	0	0	0	0	

References

1. Gardner TS, di Bernardo D, Lorenz D, Collins JJ (2003) Inferring genetic networks and identifying compound mode of action via expression profiling. *Science* 301: 102-105.