### Table S1: Computational settings for the competing methods under comparison.

| Methods              | Settings                                                                 |
|----------------------|--------------------------------------------------------------------------|
| GENIE3               | default setting in its MATLAB package                                    |
| Jump3                | noiseVar.sysNoise=0, noiseVar.obsNoise=0.01                               |
| CLR                  | method='stouffer', n = 10, k = 3                                          |
| SITPR                | alpha=0.05                                                               |
| ARACNE               | default setting in its R package                                         |
| TimeDelay-ARACNE     | delta=1, likelihood=1.2, norm=2, logarithm=0, thresh=0, ksd=0, tolerance=0.13, adj=TRUE |
| PCC                  | default setting for MATLAB function ‘corr’                               |
| MINET                | default setting in its R package for the Maximum Relevance Minimum Redundancy method |
| TIGRESS              | R=500, alpha=0.1, L=2                                                    |