

**Supplemental File S1.** Regulators associated with the transitioning gene sets. The file contains three zip files: for reprogramming dataset from Chronis et al., dedifferentiation dataset, and the H1ESC differentiation dataset. Each zip file contains a file per transitioning gene set, where the first column is the name of regulator, second column is the name of the target (Exp for all files), and the last column correspond to edge weight (regression coefficient for linear regression and confidence for MTG LASSO).