



**Figure S2 A sensitivity distribution of two kinetic parameters in a theoretical model**

The sensitivity distributions were numerically calculated by changing each kinetic parameter by one percentage. Forty solutions are employed. The mean (red triangle), minimum (black circle), and maximum (blue cross) values are plotted with respect to each kinetic parameter. 1 is  $k$  and 2 is  $K$ .

The range of the simulated sensitivity is consistent with the theoretical range (**Equation S3**), showing that MAR predicts the sensitivity range precisely. The sensitivity for  $k$  cannot be suppressed to be less than 0.5, whereas that for  $K$  can be reduced to zero. When the threshold value is set to 0.5, the parameter of  $k$  is the potentially influential parameter responsible for the steady-state level.