

Figure S7 The parameter surface developed from 2D sensitivity analysis of the two-loop model based on the highly sensitive parameters of each reference parameter set (*L9*, *L12*, *L13*, *L14*, *L27*, and *L39*): *P2* (*n1*)-LHY transcription, *P4* (*m1*)-Max. *LHY* mRNA degradation rate, *P13* (*n2*)-Max. *TOC1* transcription rate, *P16* (*g3*)-*TOC1* transcription, *P19* (*p2*)-Rate constant of *TOC1* mRNA translation, *P42* (*m12*)-*Y* mRNA degradation rate, *P49* (*m14*)-*Yp* in cytosol degradation, *P52* (*g6*)-*Y* transcription rate, and *P54* (*b*)-Hill coefficient of activation by protein *Y*. The red star illustrates the position of reference parameter set which is always the minimum cost region on the parameter surface. X and Y axis are the perturbation of sensitive parameters and Z axis is cost function corresponding to the parameter perturbation.

