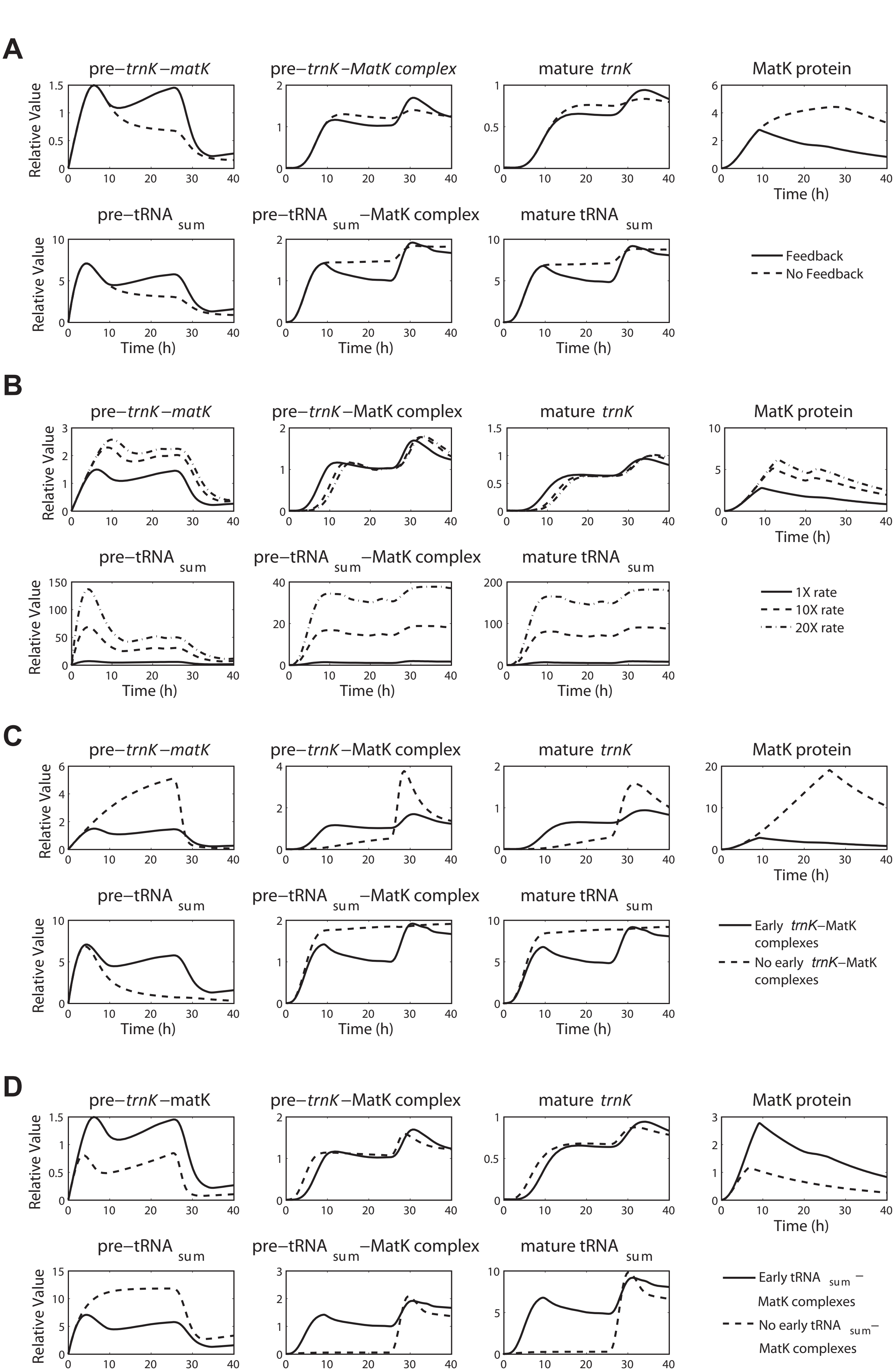

Supplemental Figure S2. Predictions of Model 1.

A, Effects of a disrupted translational negative auto-feedback loop on the expression dynamics of the tRNA-MatK splicing network. Model 1 predicts a potentially harmful over-accumulation of MatK.

B, Effects of over-expression of MatK target genes on the overall accumulation dynamics within the tRNA-MatK gene expression network. The transcription rate of pre-tRNA$_{sum}$ (*trnA, trnV, trnI*) was increased 10-fold (10X k_{5r} rate) or 20-fold (20X k_{5r} rate). As a result, tRNAs mature timely delayed and MatK over-accumulates.

C, Accumulation dynamics of the model species in response to missing pre-*trnK*/MatK repression complexes at the early stage of development. Model 1 predicts an early saturation of spliced tRNA$_{sum}$ transcripts and an increased accumulation of the MatK protein.

D, Effects of missing tRNA$_{sum}$/MatK complexes at the early stage of development on the expression dynamics of the model species. Model 1 predicts that *trnK-matK* precursors are processed more and earlier whereas excess quantities of tRNA$_{sum}$ precursors occur that are spliced after a time lag.