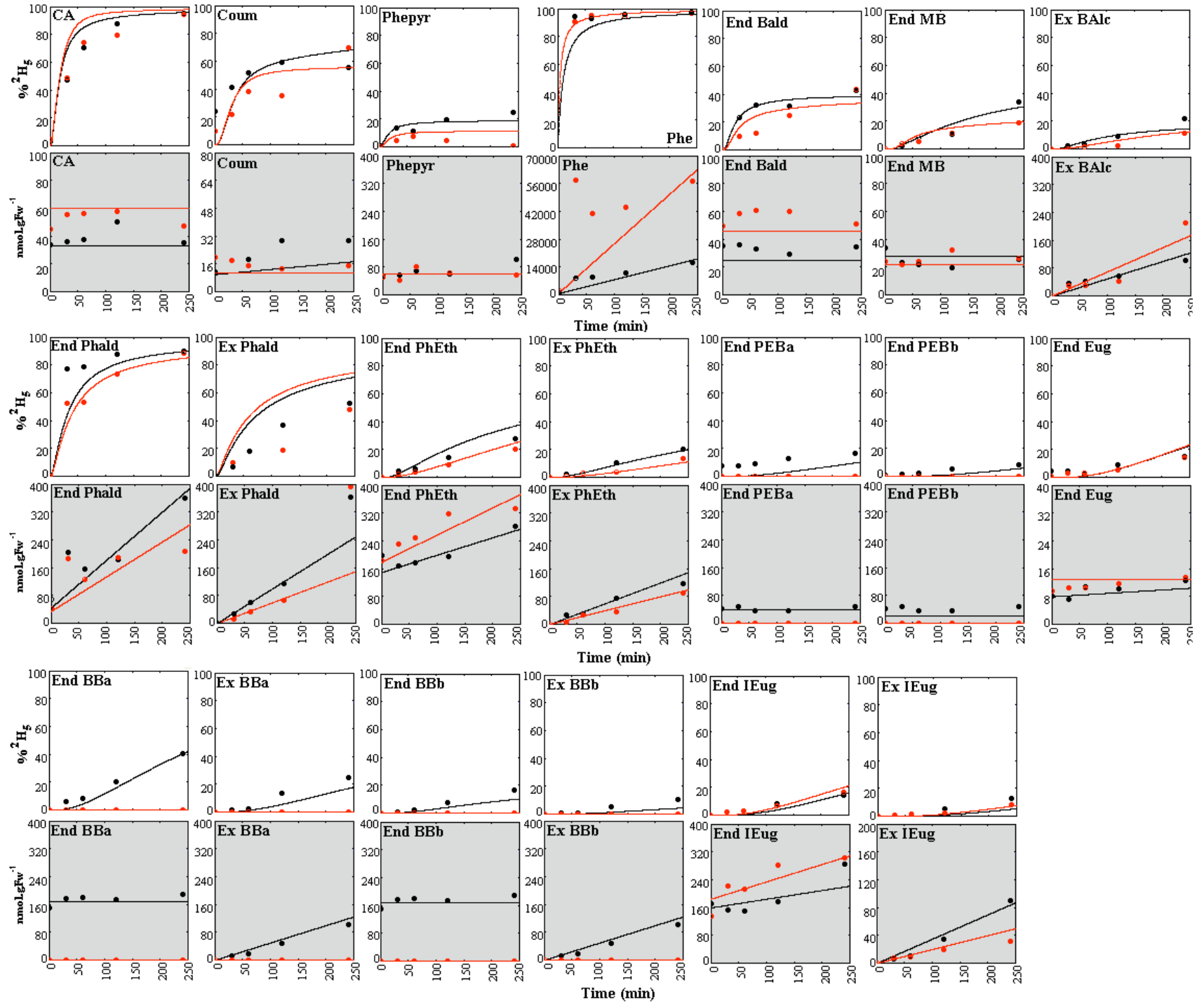
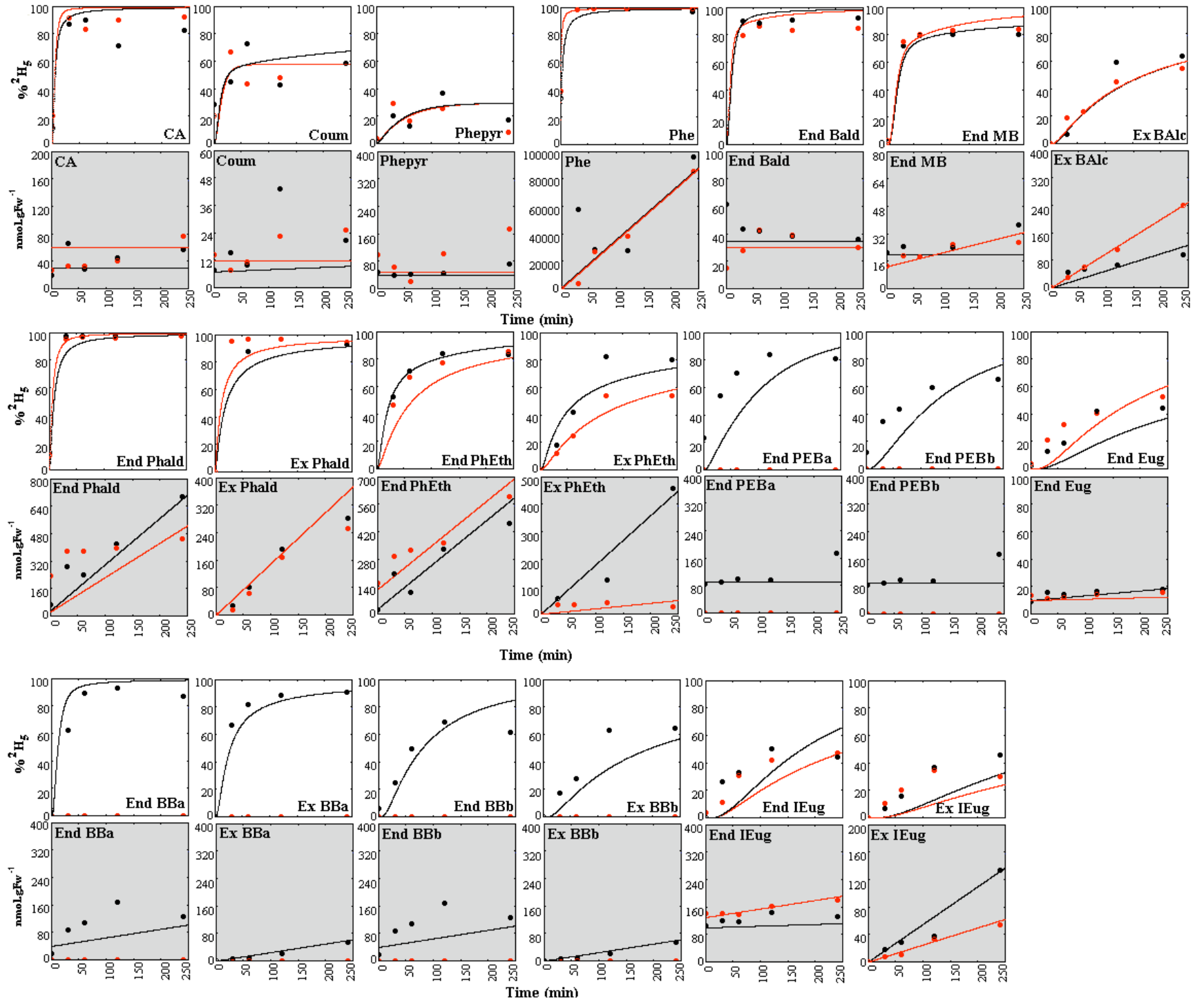


# A. Dark



## B. Light



**Supplemental Figure 1.** Metabolic modeling of *in vivo* labeling kinetics and pool sizes of benzenoid and phenylpropanoid compounds in petal tissues of control and *BPBT* RNAi-10 petunia flowers supplied with  $^2\text{H}_5$ -L-Phe for up to 4 h in the dark (A) and in the light (B).

Charts with white background show experimentally determined and model simulated isotopic labeling of intermediates and end products with the exception of the representative compounds shown in Figure 6. Grey background charts show experimentally determined and simulated pool sizes of intermediates and end products. Simulated labeling curves and pool sizes (lines) were generated using the flux rates specified in Table 1, and are superimposed upon observed values (symbols). Controls are shown in black and *BPBT* RNAi transgenics are shown in red. For abbreviations see Figure 1 and 6.