10^{4} 10^{3} Converged Converged 10^{2} 10^{1} 10^{3} 10⁰ time elapsed for this fit --- 108.4381730556488 seconds --- 10^{-3} 10^{-2} 10^{-1} 10⁻⁵ 10^{-3} 10^{-2} 10^{-4} 10^{-4} 10^{-1} inducer -> S -| Output (GFP) Full circuit with stripe 10⁵ 4×10^{3} 10^{4} 3×10^{3} 10^{3} 10^{-3} 10^{-2} 10^{-1} 10⁻⁵ 10⁻⁵ 10⁻³ 10^{-2} 10^{-4} 10^{-1} 10^{-4} Across all four plots: RSS (converged)=1.955 RSS (initial)=2.053RSS (% reduction)=0.512 epsilon Initial guesses Converged message: Optimization terminated successfully. A_s 0.000000 650.714912 6.507149e+02 success: True 0.000000 16259.979950 1.625998e+04 status: 0 C_s 0.000000 1296.448889 1.296449e+03 fun: 1.955477635162612 0.000000 1.154067 1.154067e+00 x: [6.507e+02 1.626e+04 ... 9.004e-01 5.779e-02] 2020.019216 1.235946e-08 -2020.019216 nit: 43993 B r -22993.438872 23688.809187 6.953703e+02 nfev: 57382 0.010358 7.664966e-04 -0.009591 final simplex: (array([[6.507e+02, 1.626e+04, ..., 9.004e-01, 2.373435 0.910072 3.283507e+00 Νr 5.779e-02], 83589.396670 143.802212 8.373320e+04 [6.507e+02, 1.626e+04, ..., 9.004e-01, 50238.271408 2.371339e+05 B h 186895.612359 5.779e-02], C_h -0.000822 0.000929 1.068571e-04 -1.673894 1.673894 2.482954e-12 Αо [6.507e+02, 1.626e+04, ..., 9.004e-01, B_o -0.346429 0.895342 5.489130e-01 5.779e-02], C_0 [6.507e+02, 1.626e+04, ..., 9.004e-01, 2.657699 1.797147e+01 15.313767 1.379953 9.004239e-01 -0.479529 Νo 5.779e-02]), array([1.955e+00, 1.955e+00, ..., 1.955e+00, 1.955e+00])) 2.361284 5.779014e-02 -2.303494

inducer -> S - IR (GFP output)

Initial Guess

Converged Converged

['SM data type data plots for mutation', 'Sensor5', 'using model:', 'model']

inducer -> sensor (GFP output)