inducer -> sensor (GFP output) inducer -> S - IR (GFP output) Converged Converged 10^{4} Converged Converged 4×10^{3} 3×10^{3} 10^{3} 2×10^{3} time elapsed for this fit --- 256.55765414237976 seconds --- 10^{-3} 10^{-1} 10^{-4} 10^{-2} 10^{-2} 10⁻⁵ 10^{-4} 10^{-3} 10^{-1} inducer -> S -| Output (GFP) Full circuit with stripe 6×10^3 10^{4} 4×10^{3} 3×10^{3} 10^{-3} 10^{-2} 10⁻⁵ 10^{-3} 10^{-2} 10⁻⁵ 10^{-4} 10^{-1} 10^{-4} 10^{-1} Across all four plots: RSS (converged)=0.051RSS (initial)=1.614RSS (% reduction)=0.969 epsilon Initial guesses Converged message: Optimization terminated successfully. A_s 12.047228 650.714912 662.762140 success: True 11.874714 16259.979950 16271.854664 status: 0 -4.988879 1296.448889 1291.460010 fun: 0.051024200770099316 N_s 0.021928 1.154067 1.175995 x: [6.628e+02 1.627e+04 ... 1.274e+00 5.006e-02] Αr 0.000000 2020.019216 2020.019216 nit: 91561 Βr 0.000000 23688.809187 23688.809187 nfev: 118368 0.000000 0.010358 0.010358 final simplex: (array([[6.628e+02, 1.627e+04, ..., 1.274e+00, 0.000000 0.910072 0.910072 5.006e-021, 143.802212 641.006952 497.204740 [6.628e+02, 1.627e+04, ..., 1.274e+00, B h -31564.632057 50238.271408 18673.639352 5.006e-02], C h -0.000622 0.000929 0.000307

Initial Guess

[6.628e+02, 1.627e+04, ..., 1.274e+00,

[6.628e+02, 1.627e+04, ..., 1.274e+00,

5.006e-02]]), array([5.102e-02, 5.102e-02, ..., 5.102e-02, 5.102e-02]))

5.006e-02],

['SM data type data plots for mutation', 'Output8', 'using model:', 'model']

-1.310199

49.537175

0.609542

-0.105937

-2.311226

Αо

Co

1.673894

0.895342

2.657699

1.379953

2.361284

0.363695

3.267241

1.274016

0.050058

50.432517