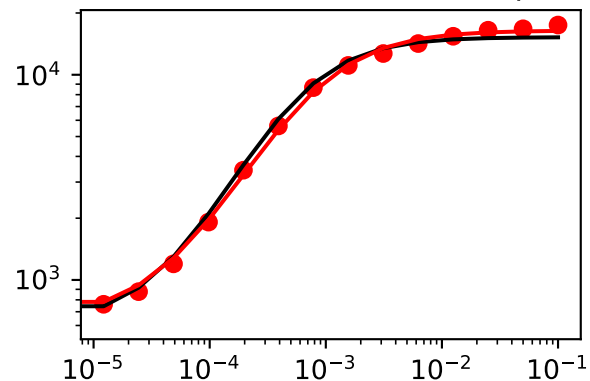
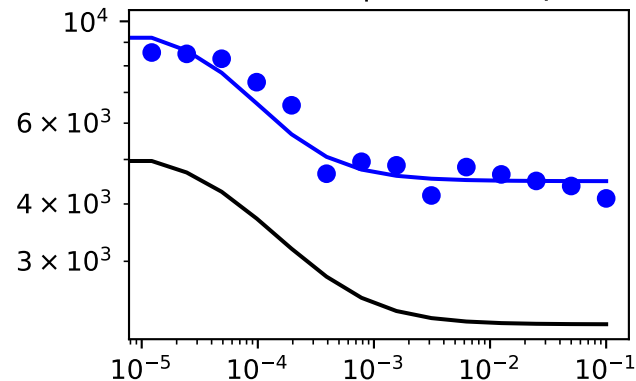


# ['SM data type data plots for mutation', 'Regulator5']

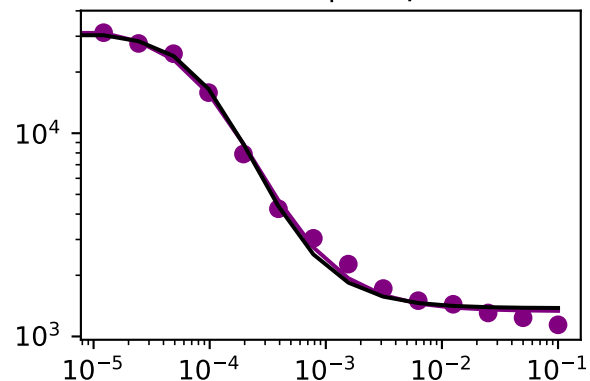
inducer -> sensor (GFP output)



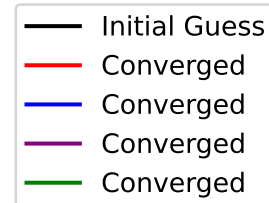
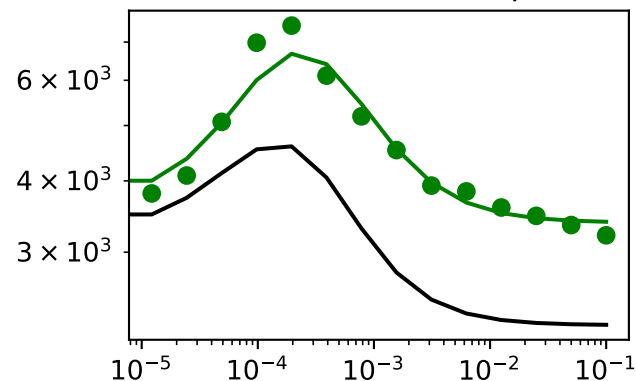
inducer -> S -| R (GFP output)



inducer -> S -| Output (GFP)



Full circuit with stripe



Across all four plots:

RSS (converged)=0.058

RSS (initial)=1.693

RSS (% reduction)=0.967

|     | epsilon       | Initial_guesses | Converged    |
|-----|---------------|-----------------|--------------|
| A_s | 33.679866     | 608.397103      | 642.076969   |
| B_s | 1179.740530   | 15250.457700    | 16430.198230 |
| C_s | -465.900883   | 1668.059050     | 1202.158167  |
| N_s | -0.081342     | 1.198934        | 1.117591     |
| A_r | 3594.422612   | 687.964693      | 4282.387305  |
| B_r | -13754.374196 | 23497.611400    | 9743.237204  |
| C_r | -0.061111     | 0.062367        | 0.001256     |
| N_r | 0.881565      | 0.391731        | 1.273295     |
| A_h | 19.145143     | 590.606548      | 609.751691   |
| B_h | 8093.229376   | 35287.125700    | 43380.355076 |
| C_h | 0.000220      | 0.000530        | 0.000750     |
| A_o | -0.721622     | 0.829830        | 0.108208     |
| B_o | 6.847836      | 4.288170        | 11.136006    |
| C_o | -0.434691     | 3.133222        | 2.698530     |
| N_o | -0.185005     | 1.809018        | 1.624014     |

message: Optimization terminated successfully.

success: True

status: 0

fun: 0.05830029110957925

x: [ 6.421e+02 1.643e+04 ... 2.699e+00 1.624e+00]

nit: 42121

nfev: 55061

final\_simplex: (array([[ 6.421e+02, 1.643e+04, ..., 2.699e+00,  
1.624e+00],  
[ 6.421e+02, 1.643e+04, ..., 2.699e+00,  
1.624e+00],  
...,  
[ 6.421e+02, 1.643e+04, ..., 2.699e+00,  
1.624e+00],  
[ 6.421e+02, 1.643e+04, ..., 2.699e+00,  
1.624e+00]]), array([ 5.830e-02, 5.830e-02, ..., 5.830e-02, 5.830e-02]))