```
final simplex: (array([[6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403172e+04, 6.41735796e-02, 7.07889481e-01,
                                                                                  1.34044664e+01, 6.43147603e+04, 1.32772347e-03, 7.53462807e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403171e+04, 6.41735797e-02, 7.07889480e-01,
                                                                                  1.34044672e+01, 6.43147602e+04, 1.32772347e-03, 7.53462749e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403171e+04, 6.41735796e-02, 7.07889480e-01,
                                                                                  1.34044667e+01, 6.43147602e+04, 1.32772347e-03, 7.53462761e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403172e+04, 6.41735797e-02, 7.07889480e-01,
                                                                                  1.34044672e+01, 6.43147602e+04, 1.32772347e-03, 7.53462804e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403172e+04, 6.41735796e-02, 7.07889481e-01,
                                                                                  1.34044660e+01, 6.43147603e+04, 1.32772347e-03, 7.53462723e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403172e+04, 6.41735797e-02, 7.07889480e-01,
          ['SM data type data plots for mutation', 'Regulators b] +01, 6.4314760 -01 Initial Guess -03, 0.53462740 -01, ucer -> sensor (GFP output) inducer -> -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.15678119 -0.1567
      inducer -> sensor (GFP output)
                                                                                  2.23914522e+03, 7.$440317 + 4Converged 97e-02, 7.07889480e-01,
                                                                                  1.34044663e+01, 6.4314760 e+04 Converged
                                                                                                                                           47e-03, 7.53462745e-01,
                                                     6 \times 10^{3}
10^{4}
                                                                                  2.14492877e+00, 1.$6781199e+0
                                                                                                                                             le+00],
                                                                                                                        Converged 5e+03, 1.15310538e+00,
                                                                                  [6.54340042e+02, 1.6333551]$\square$
                                                                                  2.23914522e+03, 7.$4403172e+04, 6.41735796e-02, 7.07889480e-01,
                                                                                    34044671e+01, 6.ቑ3147602e+04, 1.32772347e-03, 7.53462813e-01,
                                                     4 \times 10^{3}
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00]
                                                                                16.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                     3 \times 10^{3}
                                                                                   2.239<del>1452<mark>2</mark>e+03, 7</del>.$4403172e+04, 6.41735797e-02, 7.07889480e-01,
10^{3}
                                                                                     34044<del>5</del>69e₱01, 6.ቑ3147602e+04, 1.32772347e-03, 7.53462768e-01,
                                                                                  2.14<del>492877e+00, 1</del>.$6781199e+00, 1.26594061e+00],
                                                                                  6.54340042e+02.1.63335519e+04, 1.26088805e+03, 1.15310538e+00, 2.23914322e+03, 9.54403172e+04, 6.41735797e-02, 7.07889480e-01,
                                                             10^{-5}
              10^{-4}
                        10^{-3}
                                   10^{-2}
                                             10^{-1}
                                                                       10^{-4}
                                                                      Full circult 340446686601, 6.43147602e+04, 1.32772347e-03, 7.53462794e-01,
        inducer -> S -| Output (GFP)
                                                                                       <del>[4928776+00, 1.</del>56781199e+00, 1.26594061e+00],
                                                                                 [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.$4403172e+04, 6.41735797e-02, 7.07889480e-01,
                                                                                  4 \times 10^3
                                                                                  Q.14492877e+00, 1.$6781199e+00, 1.26594061e+00],
10^{4}
                                                                                   🕽 54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                      3914522e+03, 7.$4403171e+04, 6.41735797e-02, 7.07889480e-01,
                                                                                 1.34044672e+01, 6.43147602e+04, 1.32772347e-03, 7.53462795e-01, 2.14492877e+00, 1.56781199e+00, 1.26594061e+00], [6.54349042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                     3 \times 10^{3}
                                                                                  2.23914<del>522e 03, 7</del>.54403171e+04, 6.41735797e-02, 7.07889480e-01, 1.34044666e+09, 6.43147602e+04, 1.32772347e-03, 7.53462753e-01,
                                                    2 \times 10^{3}
10^{3}
                                                                                  20^{14492877e+00}d-56781199e+00, 1.26594061e+00
    10^{-5}
                         10<sup>-3</sup>
                                   10^{-2}
                                                             10^{-5}
                                                                       10^{-4}
              10^{-4}
                                             10^{-1}
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403171e+04, 6.41735797e-02, 7.07889480e-01,
            Across all four plots:
                                                                                  1.34044666e+01, 6.43147602e+04, 1.32772347e-03, 7.53462734e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
              RSS (converged)=0.049
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403171e+04, 6.41735796e-02, 7.07889480e-01,
              RSS (initial)=0.303
                                                                                  1.34044660e+01, 6.43147603e+04, 1.32772347e-03, 7.53462737e-01,
                                                                                  2.14492877e+00, 1.56781199e+00, 1.26594061e+00],
              RSS (% reduction)=0.862
                                                                                  [6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
                                                                                  2.23914522e+03, 7.54403171e+04, 6.41735797e-02, 7.07889480e-01,
                      epsilon Initial guesses Converged
                                                                                  1.34044673e+01, 6.43147602e+04, 1.32772347e-03, 7.53462726e-01
                  45.942939
                                     608.397103 654.340042
                                                                                  B s 1083.094220
                                     15250.457700 16333.551920
                                                                                 Cs -407.170997
                                     1668.059050 1260.888053
                                                                                 0.04866253, 0.04866253, 0.04866253, 0.04866253, 0.04866253,
           Νs
                   -0.045828
                                      1.198934
                                                   1.153105
           Ar 1551.180524
                                      687.964693 2239.145217
                                                                                    fun: 0.04866253304917808
           B_r 51942.705779
                                     23497.611400 75440.317179
                                                                                  message: 'Optimization terminated successfully.'
                   0.001806
                                      0.062367
                                                     0.064174
           Сr
                                                                                    nfev: 20571
                   0.316159
                                      0.391731
                                                     0.707889
           Νr
                                                                                    nit: 15627
           A h -577.202082
                                      590.606548 13.404466
                                                                                  status: 0
                                      35287.125700 64314.760251
           B h 29027.634551
                                                                                  success: True
                    0.000798
                                      0.000530
                                                      0.001328
           Сh
                                                                                      x: array([6.54340042e+02, 1.63335519e+04, 1.26088805e+03, 1.15310538e+00,
           Αо
                   -0.076367
                                      0.829830
                                                      0.753463
                                                                                  2.23914522e+03, 7.54403172e+04, 6.41735796e-02, 7.07889481e-01,
                   -2.143241
                                      4.288170
                                                      2.144929
                                                                                 1.34044664e+01, 6.43147603e+04, 1.32772347e-03, 7.53462807e-01,
                   -1.565410
                                      3.133222
                                                      1.567812
                                                                                 2.14492877e+00, 1.56781199e+00, 1.26594061e+00])
                   -0.543078
                                      1.809018
                                                      1.265941
           N_o
```