```
final simplex: (array([[6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403484e-04, 1.02442686e+00,
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075219e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421058e+04, 5.87413487e-02, 3.89000385e-01,
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403484e-04, 1.02442686e+00,
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
              ['SM data type data plots for mutation', 'Sensor '38] 8e+02, 4.14712142 = +04 Initial Guess 8e-04, 1.02442686e+00, cer -> sensor (GFP output) inducer -> 5.44075218e+00, 6.2005325 = +00 Converged 20e+03, 1.12345232e+00,
      inducer -> sensor (GFP output)
                                                                                         7.68555018e+02, 3.1142105 -- 4Converged 8 / e-02, 3.89000384e-01,
                                                                                         6.54923878e+02, 4.14712142e+04Converged 3e-04, 1.02442687e+00,
                                                         6 \times 10^{3}
10^{4}
                                                                                        5.44075219e+00, 2.02133781e+002199512261e+00],
[6.13567443e+02, 6.20053258e+0 Converged 20e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                                                         4 \times 10^{3}
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                         3 \times 10^{3}
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
10^{3}
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075219e+00, 2.02133781e+00, 2.99512261e+00],
                                                                                         6.13567443e+02,6.20053258e+03, 1.42563620e+03, 1.12345232e+00, 7.68555617e+02,3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                          10^{-3}
               10^{-4}
                                      10^{-2}
                                                 10^{-1}
                                                                  10^{-5}
                                                                             10^{-4}
                                                                           Full circum 5/4923 & 7 2002, 4.14712142e+04, 2.91403483e-04, 1.02442687e+00,
         inducer -> S -| Output (GFP)
                                                                                                  <del>5219e+00, 2.</del>02133781e+00, 2.99512261e+00],
                                                         6 \times 10^{3}
                                                                                       ₹<mark>6</mark>13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421058e+04, 5.87413487e-02, 3.89000384e-01,
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403484e-04, 1.02442686e+00, 5.44075218e+00, 2.92133781e+00, 2.99512261e+00],
10^{4}
                                                         4 \times 10^{3}
                                                                                         6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                           .68555017e+02, 3.‡1421059e+04, 5.87413487e-02, 3.89000384e-01,
                                                                                         6\54923878e+02, 4.\daggeq4712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                         3 \times 10^{3}
                                                                                        5.44075218e+00, 2.02133781e+00, 2.99512261e+00], [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421058e+04, 5.87413487e-02, 3.89000384e-01,
                                                                                         <u>6.54923878e+02, 4.1</u>4712142e+04, 2.91403484e-04, 1.02442686e+00,
                                                                                         5644075268e+0012-02133781e+00, 2.99512261e+00],
                                      10^{-2}
    10^{-5}
                           10^{-3}
                                                 10^{-1}
                                                                  10^{-5}
                                                                             10^{-4}
               10^{-4}
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
             Across all four plots:
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075219e+00, 2.02133781e+00, 2.99512261e+00],
               RSS (converged)=0.017
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
               RSS (initial)=2.318
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00],
                RSS (% reduction)=0.993
                                                                                        [6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
                                                                                         7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                       epsilon Initial guesses Converged
                                                                                         6.54923878e+02, 4.14712142e+04, 2.91403483e-04, 1.02442686e+00,
                    5.170340
                                       608.397103 613.567443
                                                                                         5.44075218e+00, 2.02133781e+00, 2.99512261e+00]), array([0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019, 0
            B s -9049.925117
                                       15250.457700 6200.532583
                                                                                        0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019,
            C s -242.422850
                                       1668.059050 1425.636200
                                                                                        0.01667019, 0.01667019, 0.01667019, 0.01667019, 0.01667019,
                  -0.075481
                                        1.198934 1.123452
                                                                                        0.01667019]))
                                       687.964693 768.555017
                   80.590324
                                                                                           fun: 0.01667019198389954
                                       23497.611400 31142.105853
            B r 7644.494453
                                                                                        message: 'Optimization terminated successfully.'
                   -0.003626
                                        0.062367
                                                         0.058741
            Сr
                                                                                          nfev: 9905
                   -0.002731
                                        0.391731
            Νr
                                                         0.389000
                                                                                           nit: 7343
                    64.317330
                                        590.606548 654.923878
            Αh
                                                                                         status: 0
                                        35287.125700 41471.214168
            B h 6184.088468
                                                                                        success: True
                    -0.000238
                                         0.000530
                                                         0.000291
            Сh
                                                                                             x: array([6.13567443e+02, 6.20053258e+03, 1.42563620e+03, 1.12345232e+00,
            Αо
                     0.194597
                                        0.829830
                                                         1.024427
                                                                                        7.68555017e+02, 3.11421059e+04, 5.87413487e-02, 3.89000384e-01,
                     1.152582
                                         4.288170
                                                         5.440752
                                                                                        6.54923878e+02, 4.14712142e+04, 2.91403484e-04, 1.02442686e+00,
            Со
                    -1.111884
                                         3.133222
                                                         2.021338
                                                                                        5.44075218e+00, 2.02133781e+00, 2.99512261e+00])
                    1.186104
                                         1.809018
            N_o
                                                         2.995123
```