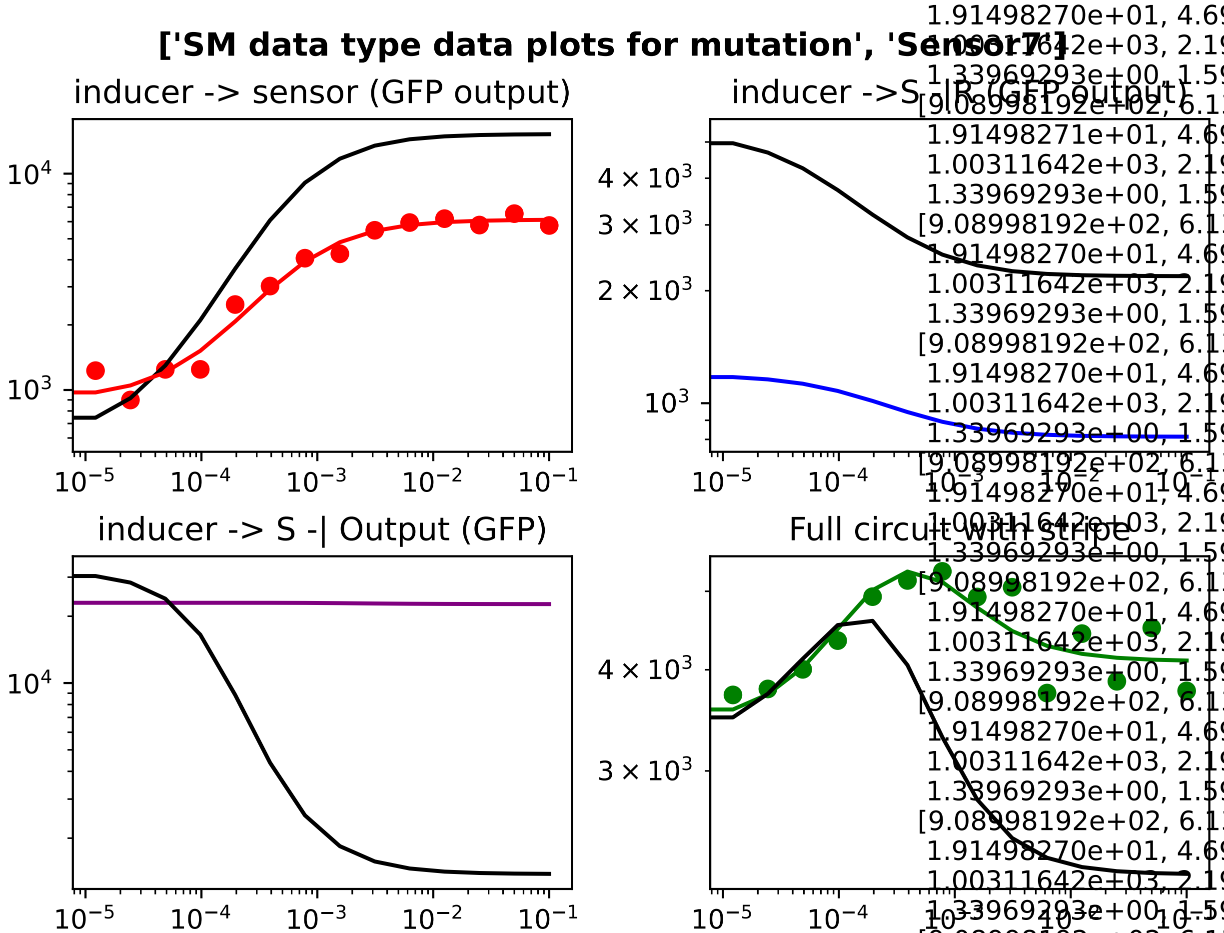

Across all four plots:

RSS (converged)=0.047

RSS (initial)=2.022

RSS (% reduction)=0.977

	epsilon	Initial_guesses	Converged
A_s	300.601089	608.397103	908.998192
B_s	-9116.503946	15250.457700	6133.953754
C_s	19.645484	1668.059050	1687.704534
N_s	-0.074223	1.198934	1.124711
A_r	-668.814866	687.964693	19.149827
B_r	-18802.692594	23497.611400	4694.918806
C_r	0.017816	0.062367	0.080183
N_r	-0.134902	0.391731	0.256829
A_h	412.509876	590.606548	1003.116424
B_h	-13300.842552	35287.125700	21986.283148
C_h	-0.000456	0.000530	0.000074
A_o	-0.606355	0.829830	0.223475
B_o	-2.948477	4.288170	1.339693
C_o	12.784705	3.133222	15.917927
N_o	3.589631	1.809018	5.398650

final_simplex: (array([[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491881e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862831e+04, 7.43576953e-05, 2.23474891e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498271e+01, 4.69491881e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474891e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498271e+01, 4.69491880e+03, 8.01826990e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826990e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498271e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491881e+03, 8.01826992e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474891e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491881e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491880e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474890e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491881e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862831e+04, 7.43576953e-05, 2.23474891e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00],
[9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498271e+01, 4.69491881e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862832e+04, 7.43576953e-05, 2.23474891e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00]]), array([0.04687021, 0.04687021, 0.04687021, 0.04687021, 0.04687021,
0.04687021, 0.04687021, 0.04687021, 0.04687021, 0.04687021,
0.04687021, 0.04687021, 0.04687021, 0.04687021, 0.04687021,
0.04687021]))
fun: 0.046870212210800684
message: 'Optimization terminated successfully.'
nfev: 29743
nit: 22517
status: 0
success: True
x: array([9.08998192e+02, 6.13395375e+03, 1.68770453e+03, 1.12471087e+00,
1.91498270e+01, 4.69491881e+03, 8.01826991e-02, 2.56829178e-01,
1.00311642e+03, 2.19862831e+04, 7.43576953e-05, 2.23474891e-01,
1.33969293e+00, 1.59179267e+01, 5.39864951e+00])