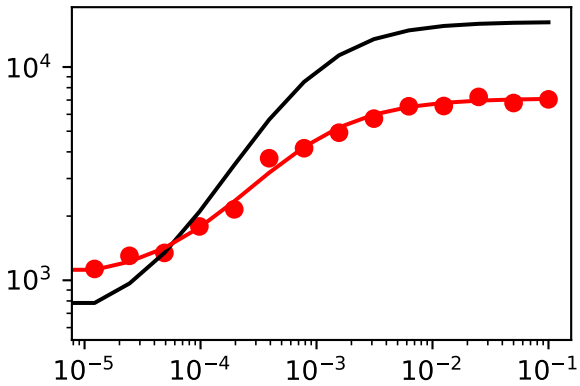
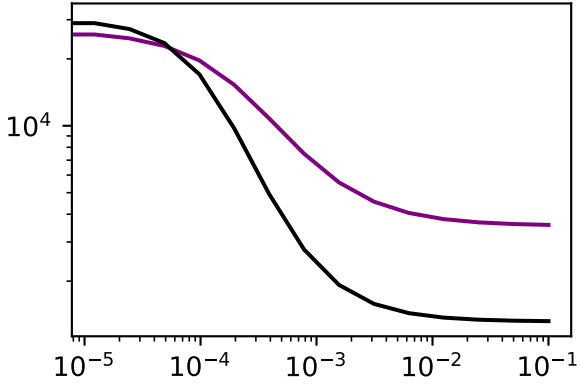


['SM data type data plots for mutation', 'Sensor6']
inducer -> sensor (GFP output)



inducer -> S -| Output (GFP)



Across all four plots:

RSS (converged)=0.027

RSS (initial)=1.661

RSS (% reduction)=0.984

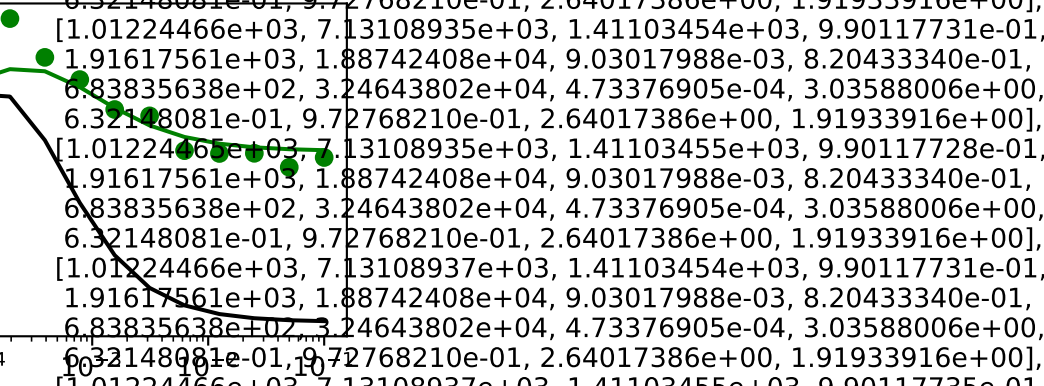
	epsilon	Initial_guesses	Converged
A_s	394.197568	618.047086	1012.244654
B_s	-9147.767281	16278.856600	7131.089319
C_s	110.380788	1300.653790	1411.034578
N_s	-0.106424	1.096541	0.990118
A_r	0.000000	1916.175610	1916.175610
B_r	0.000000	18874.240800	18874.240800
C_r	0.000000	0.009030	0.009030
N_r	0.000000	0.820433	0.820433
A_h	0.000000	683.835638	683.835638
B_h	0.000000	32464.380200	32464.380200
C_h	0.000000	0.000473	0.000473
F_o	0.214528	2.821352	3.035880
A_o	0.000000	0.632148	0.632148
B_o	0.000000	0.972768	0.972768
C_o	0.000000	2.640174	2.640174
N_o	0.000000	1.919339	1.919339

final simplex: (array([[1.01224465e+03, 7.13108932e+03, 1.41103458e+03, 9.90117740e-01,

1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588005e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00],
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1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588006e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00],
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1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
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6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588006e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00],
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6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588006e+00,
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1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
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6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588006e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00],
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1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588005e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00]]), array([0.02732877, 0.02732877, 0.02732877, 0.02732877, 0.02732877,

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0.02732877, 0.02732877, 0.02732877, 0.02732877, 0.02732877,
0.02732877, 0.02732877]))
fun: 0.0273287707262191
message: 'Optimization terminated successfully.'
nfev: 1277
nit: 785
status: 0
success: True
x: array([1.01224465e+03, 7.13108932e+03, 1.41103458e+03, 9.90117740e-01,
1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588005e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00])

Full circuit with 8 inputs



0.02732877, 0.02732877, 0.02732877, 0.02732877, 0.02732877,
0.02732877, 0.02732877, 0.02732877, 0.02732877, 0.02732877,
0.02732877, 0.02732877]))
fun: 0.0273287707262191
message: 'Optimization terminated successfully.'
nfev: 1277
nit: 785
status: 0
success: True
x: array([1.01224465e+03, 7.13108932e+03, 1.41103458e+03, 9.90117740e-01,
1.91617561e+03, 1.88742408e+04, 9.03017988e-03, 8.20433340e-01,
6.83835638e+02, 3.24643802e+04, 4.73376905e-04, 3.03588005e+00,
6.32148081e-01, 9.72768210e-01, 2.64017386e+00, 1.91933916e+00])