

drosophila_707_post.csv_run_8_20250529_142807

May 29, 2025

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/Users/navehr/Dropbox/naveh/weizmann/uri_alon/aging/code_3
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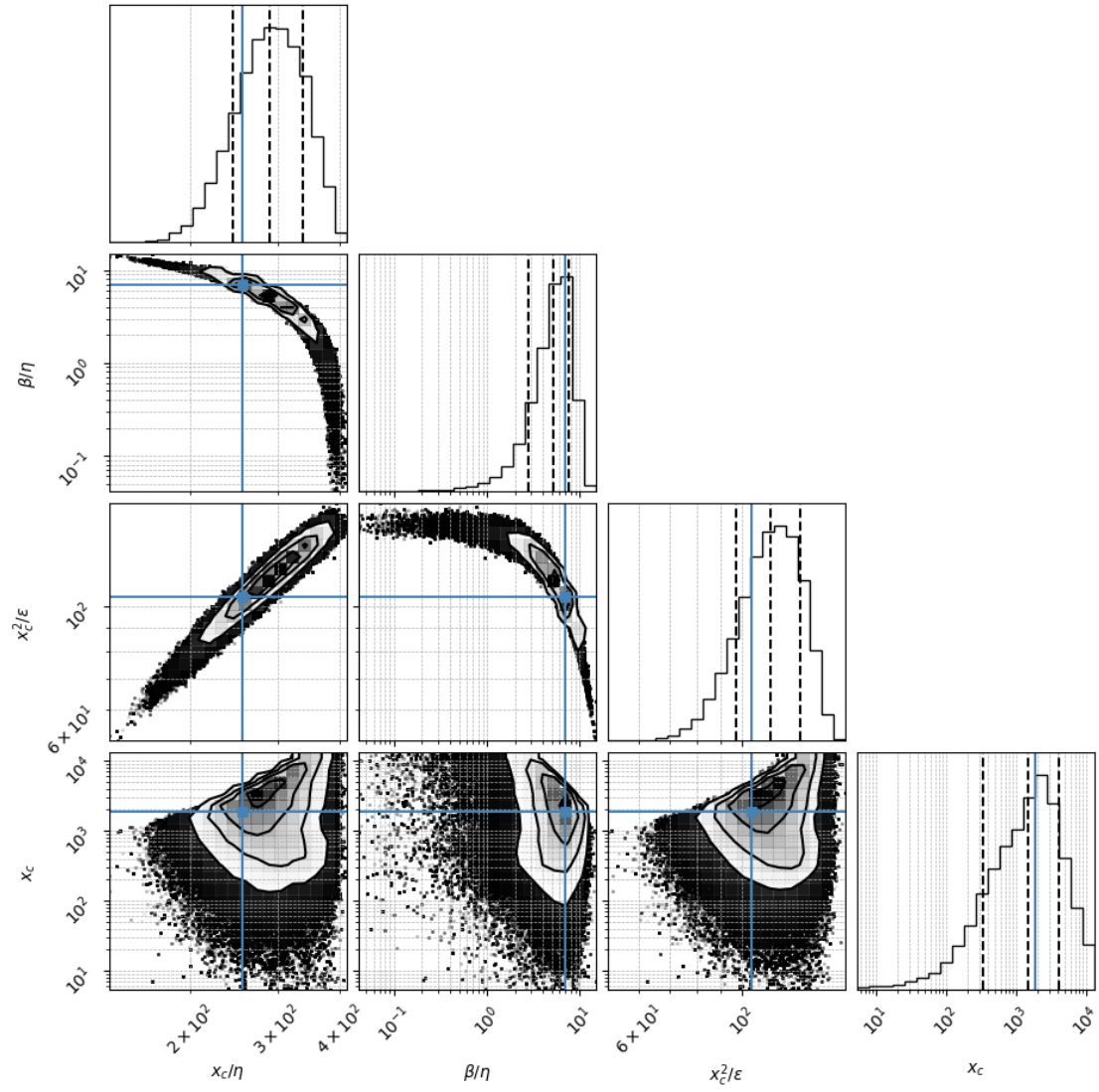
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Loading file from: /Users/navehr/Dropbox/naveh/weizmann/uri_alon/aging/code_3/ba  
ysian02/posterior_csvs_baysian01/DROSOPHILA/drosophila_707_post.csv
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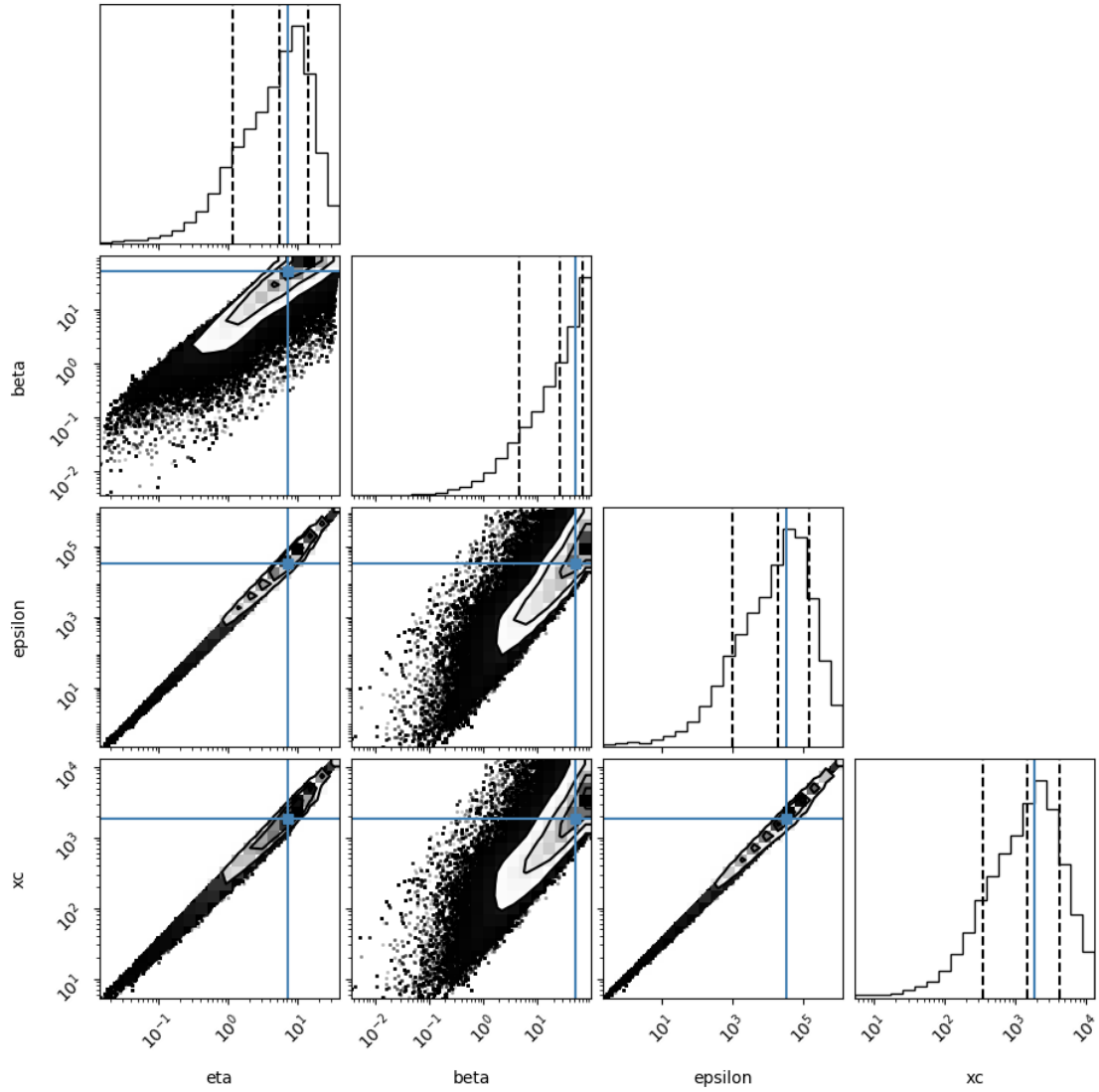
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Reading drosophila_707_seed
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1 # 1. Density coner plot

A sample is 1 parameter set scanned. For the corner plot below, the quantiles (represented by the solid lines) are 0.16,0.5,0.84 of the samples. Dots represent individual samples (outside the line surrounding 0.84 of the samples) The parameter search is performed in the transformed space of x_c/η , β/η , x_c^2/ϵ , x_c but we also show the regular parameters

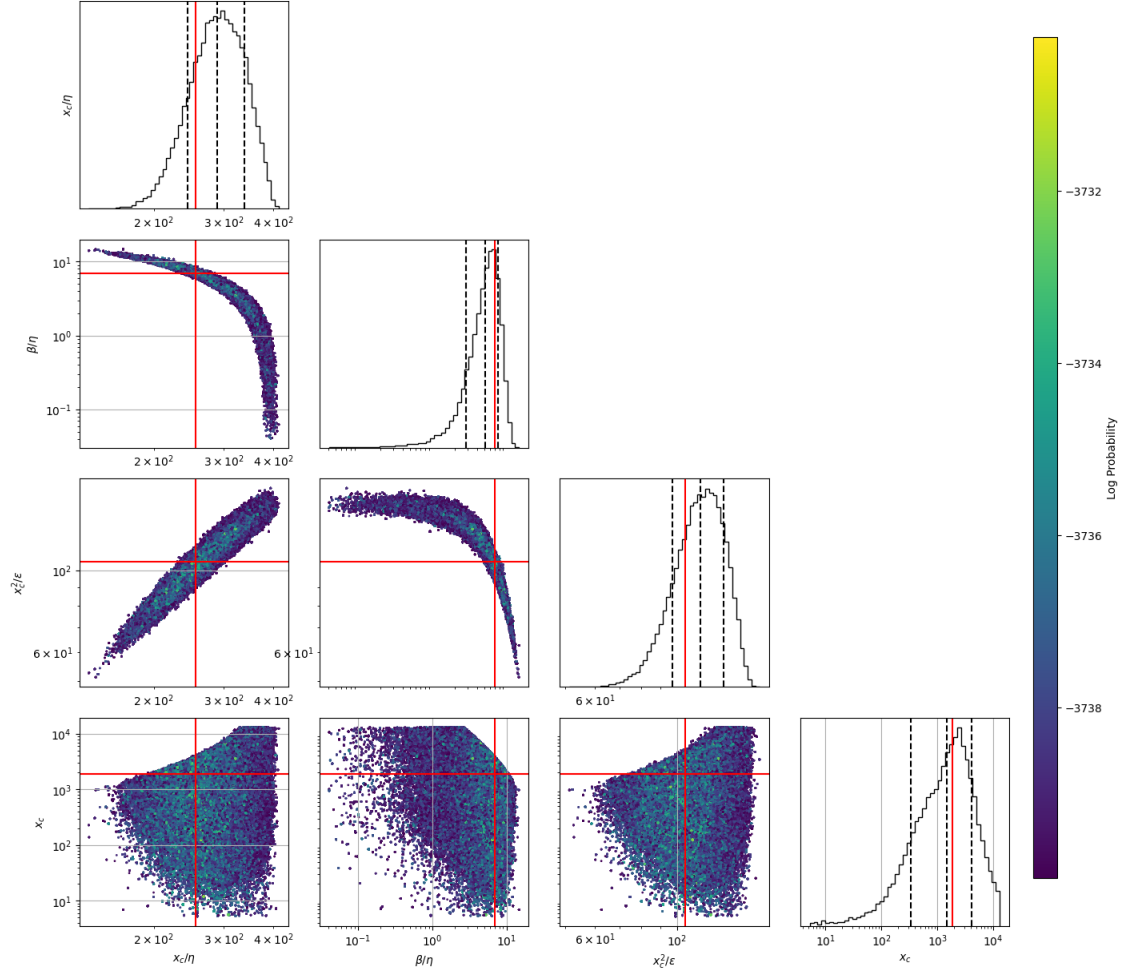
(16,)





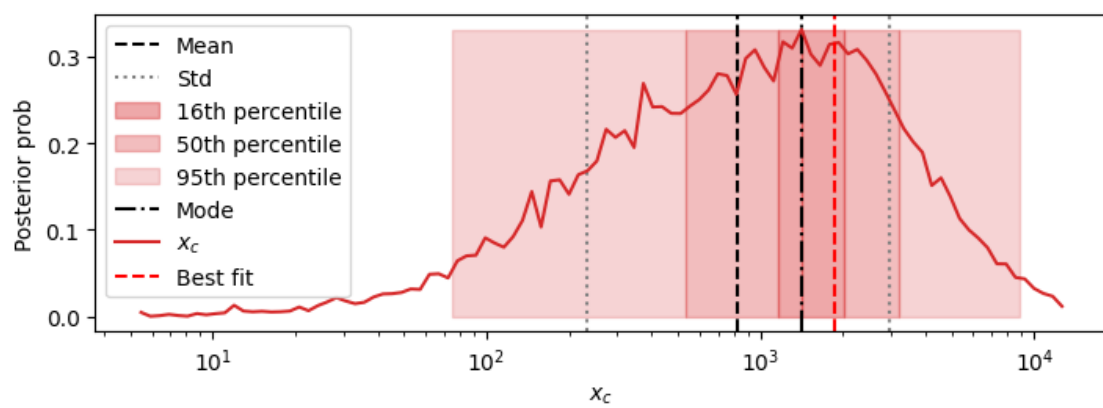
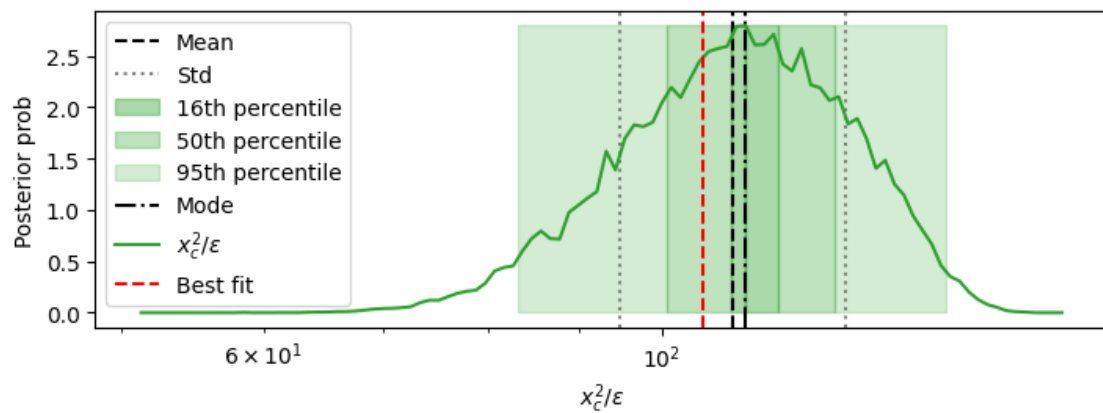
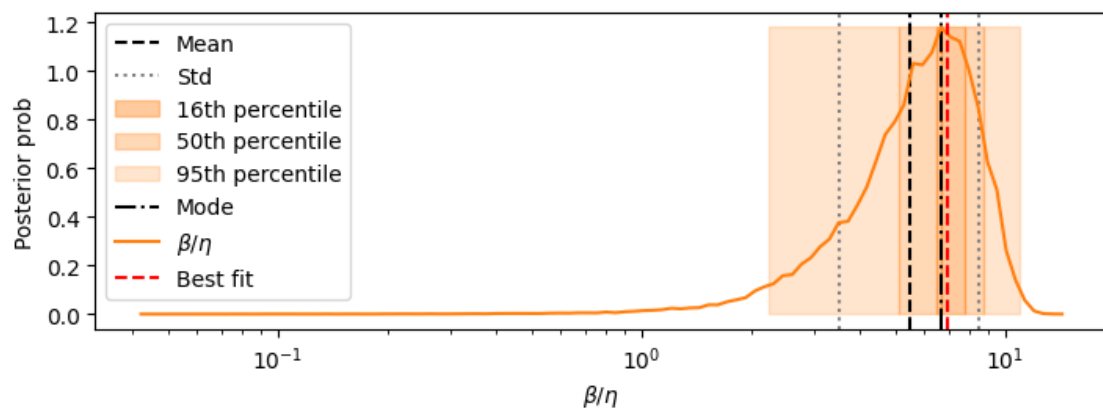
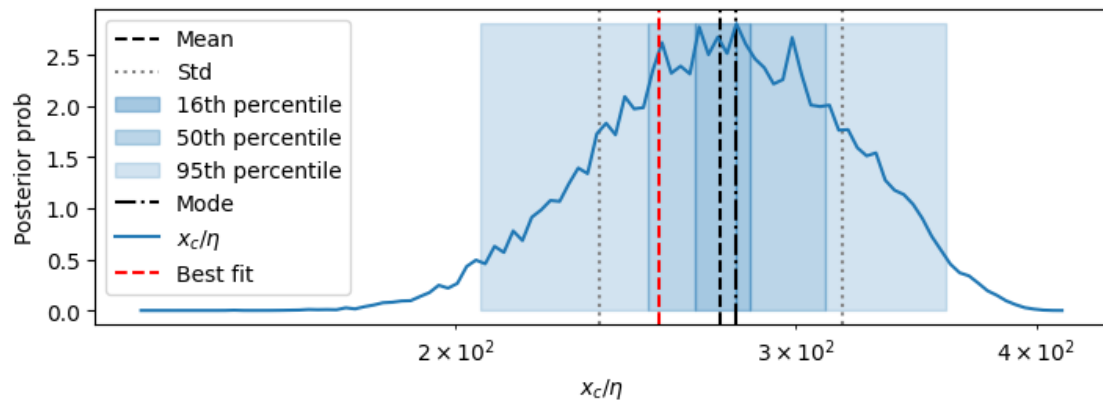
2. Heat map corner plot of raw samples

This plot shows all the raw sample points and their Inprobability



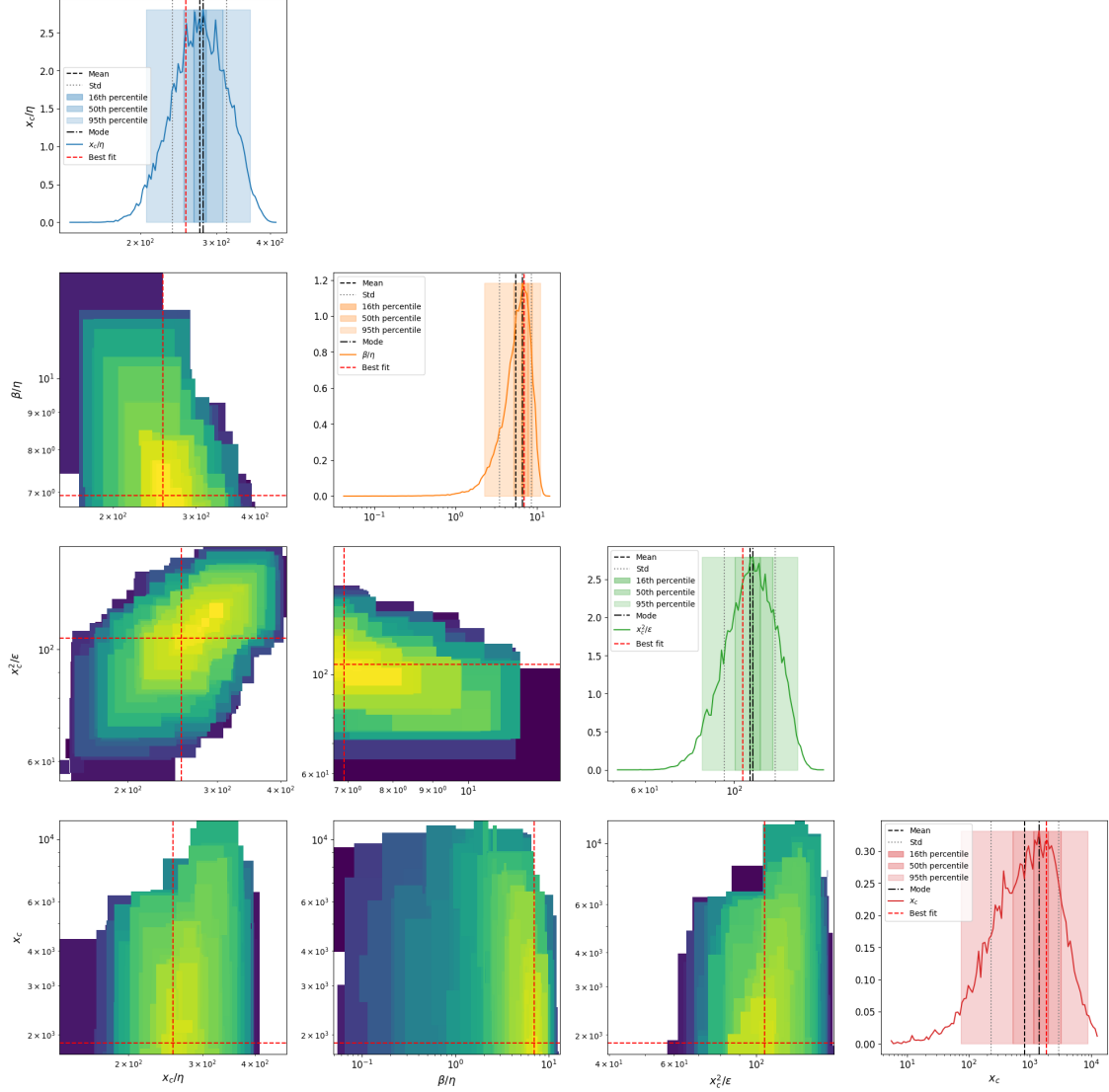
3. Posterior distributions of parameters

1d marginalizations of posterior distributions. we use a grid of size nbins=100-150



2D marginalizations of posterior distributions

2D Marginalized Posterior



4. Table of results

mode is the marginalized mode, max_likwlihood is the sample with highest likelihood mode_overall is the 4D posterior mode

	mean	std	mode \
xc/eta	274.332	[42.856, 37.065]	276.519

beta/eta	5.452	[3.058, 1.959]	6.672
xc^2/epsilon	109.51	[17.055, 14.757]	111.323
xc	826.809	[2117.943, 594.663]	1530.21
eta	1.423	[6.264, 1.159]	5.231
beta	6.778	[30.834, 5.556]	18.565
epsilon	1413.1	[40873.942, 1365.879]	24551.4
sqrt(xc/eta)	16.557	[1.194, 1.114]	16.537
s= eta^0.5*xc^1.5/epsilon	6.611	[0.504, 0.469]	6.697
beta*xc/epsilon	2.2	[1.158, 0.758]	2.633
eta*xc/epsilon	0.399	[0.0147, 0.0142]	0.398
Fx=beta^2/eta*xc	0.108	[0.191, 0.0689]	0.16
Dx =beta*epsilon/eta*xc^2	0.0496	[0.0385, 0.0217]	0.0595
Pk=beta*k/epsilon	0.00218	[0.0132, 0.00187]	0.00128
Fk=beta^2/eta*k	72.565	[406.368, 61.57]	168.973
Dk =beta*epsilon/eta*k^2	34155.639	[766547.914, 32698.661]	269077.292
Fk^2/Dk=beta^3/eta*epsilon	0.161	[1.226, 0.143]	0.527
epsilon/beta^2	28.915	[100.546, 22.457]	13.1
k/beta	0.0639	[0.268, 0.0516]	0.0551
k^2/epsilon	0.000141	[0.00359, 0.000136]	0.00001
best fit_MedianLifetime	23.1	0.51	23.1
best fit_MaxLifetime	47.97	0	47.97
data_MedianLifetime	22.0	0.55	22.0
data_MaxLifetime	47.0	0	47.0

	percentile_16	\
xc/eta	[265.982, 284.301]	
beta/eta	[6.108, 7.289]	
xc^2/epsilon	[108.056, 116.063]	
xc	[1258.328, 2176.076]	
eta	[3.379, 7.478]	
beta	[15.924, 36.106]	
epsilon	[8865.392, 42489.337]	
sqrt(xc/eta)	[16.309, 16.861]	
s= eta^0.5*xc^1.5/epsilon	[6.582, 6.815]	
beta*xc/epsilon	[2.41, 2.877]	
eta*xc/epsilon	[0.395, 0.402]	
Fx=beta^2/eta*xc	[0.132, 0.194]	
Dx =beta*epsilon/eta*xc^2	[0.0536, 0.0661]	
Pk=beta*k/epsilon	[0.000917, 0.00231]	
Fk=beta^2/eta*k	[114.859, 248.582]	
Dk =beta*epsilon/eta*k^2	[121406.901, 596363.045]	
Fk^2/Dk=beta^3/eta*epsilon	[0.331, 0.697]	
epsilon/beta^2	[10.814, 18.034]	
k/beta	[0.0314, 0.0711]	
k^2/epsilon	[5.02e-06, 2.41e-05]	
best fit_MedianLifetime	[22.610000000000003, 23.610000000000003]	
best fit_MaxLifetime	[47.97, 47.97]	

data_MedianLifetime	[21.5, 22.55]
data_MaxLifetime	[47.0, 47.0]

	percentile_50 \
xc/eta	[248.844, 307.273]
beta/eta	[4.826, 8.2]
xc^2/epsilon	[100.601, 123.187]
xc	[492.039, 2975.812]
eta	[0.876, 10.274]
beta	[6.34, 81.868]
epsilon	[385.953, 58129.468]
sqrt(xc/eta)	[15.775, 17.432]
s= eta^0.5*xc^1.5/epsilon	[6.357, 7.056]
beta*xc/epsilon	[2.019, 3.237]
eta*xc/epsilon	[0.389, 0.409]
Fx=beta^2/eta*xc	[0.0792, 0.284]
Dx =beta*epsilon/eta*xc^2	[0.0406, 0.0815]
Pk=beta*k/epsilon	[0.000617, 0.00865]
Fk=beta^2/eta*k	[45.478, 627.818]
Dk =beta*epsilon/eta*k^2	[14539.637, 1723279.11]
Fk^2/Dk=beta^3/eta*epsilon	[0.157, 1.219]
epsilon/beta^2	[7.368, 34.179]
k/beta	[0.00749, 0.0788]
k^2/epsilon	[4.29e-06, 0.000473]
best fit_MedianLifetime	[22.610000000000003, 23.610000000000003]
best fit_MaxLifetime	[47.97, 47.97]
data_MedianLifetime	[21.5, 22.55]
data_MaxLifetime	[47.0, 47.0]

	percentile_95 \
xc/eta	[206.05, 358.936]
beta/eta	[2.116, 10.378]
xc^2/epsilon	[82.155, 142.121]
xc	[69.571, 8229.679]
eta	[0.0637, 26.646]
beta	[0.326, 100.461]
epsilon	[2.563, 609915.036]
sqrt(xc/eta)	[14.434, 18.841]
s= eta^0.5*xc^1.5/epsilon	[5.688, 7.564]
beta*xc/epsilon	[0.937, 4.1]
eta*xc/epsilon	[0.371, 0.427]
Fx=beta^2/eta*xc	[0.0132, 0.539]
Dx =beta*epsilon/eta*xc^2	[0.0153, 0.133]
Pk=beta*k/epsilon	[5.03e-05, 0.106]
Fk=beta^2/eta*k	[2.073, 1585.614]
Dk =beta*epsilon/eta*k^2	[86.126, 5943031.151]
Fk^2/Dk=beta^3/eta*epsilon	[0.00149, 3.094]

epsilon/beta^2	[3.421, 735.384]
k/beta	[0.00497, 1.249]
k^2/epsilon	[3.5e-07, 0.0712]
best_fit_MedianLifetime	[22.610000000000003, 23.610000000000003]
best_fit_MaxLifetime	[47.97, 47.97]
data_MedianLifetime	[21.5, 22.55]
data_MaxLifetime	[47.0, 47.0]

	max_likelihood	mode_overall
xc/eta	255.043	237.43
beta/eta	6.921	8.241
xc^2/epsilon	105.277	92.727
xc	1865.315	267.873
eta	7.314	0.0448
beta	50.62	0.311
epsilon	33049.914	1.314
sqrt(xc/eta)	15.97	15.409
s= eta^0.5*xc^1.5/epsilon	6.592	6.018
beta*xc/epsilon	2.857	3.219
eta*xc/epsilon	0.413	0.391
Fx=beta^2/eta*xc	0.188	0.286
Dx =beta*epsilon/eta*xc^2	0.0657	0.0889
Pk=beta*k/epsilon	0.000766	0.00601
Fk=beta^2/eta*k	700.717	153.26
Dk =beta*epsilon/eta*k^2	914991.867	25510.22
Fk^2/Dk=beta^3/eta*epsilon	0.537	0.921
epsilon/beta^2	12.898	5.13
k/beta	0.00988	0.0284
k^2/epsilon	0.000008	0.000157
best_fit_MedianLifetime	23.1	NaN
best_fit_MaxLifetime	47.97	NaN
data_MedianLifetime	22.0	NaN
data_MaxLifetime	47.0	NaN

5 5. Fits of simulations to data

best params is the sample with highest likelihood. mode trans is the 4D posterior mode in the transformed space of x_c/η , β/η , x_c^2/ϵ , x_c

