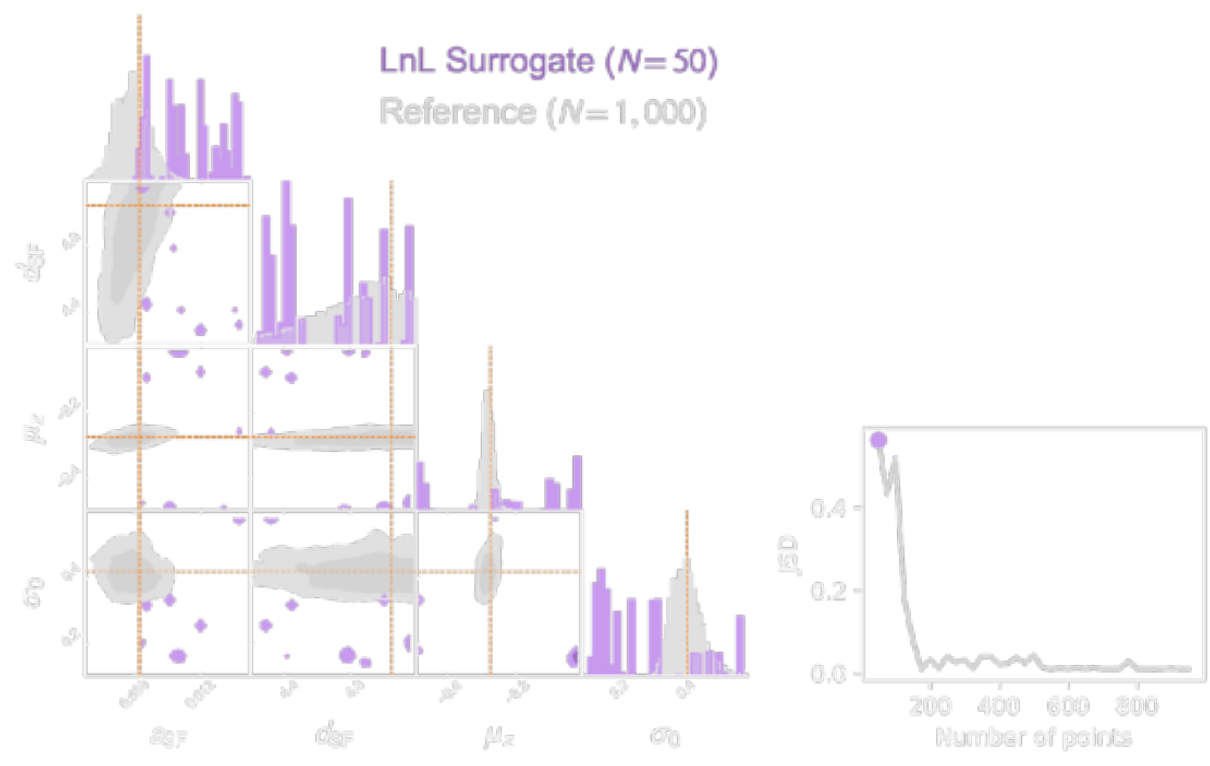
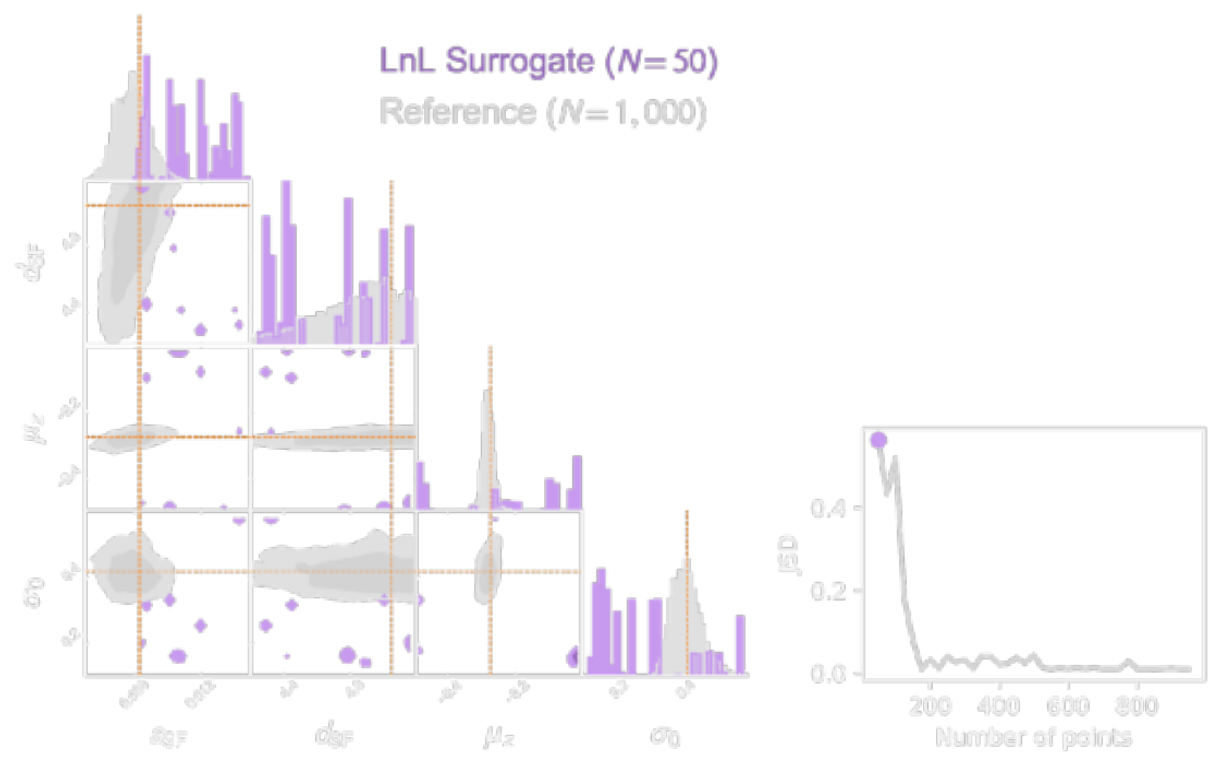
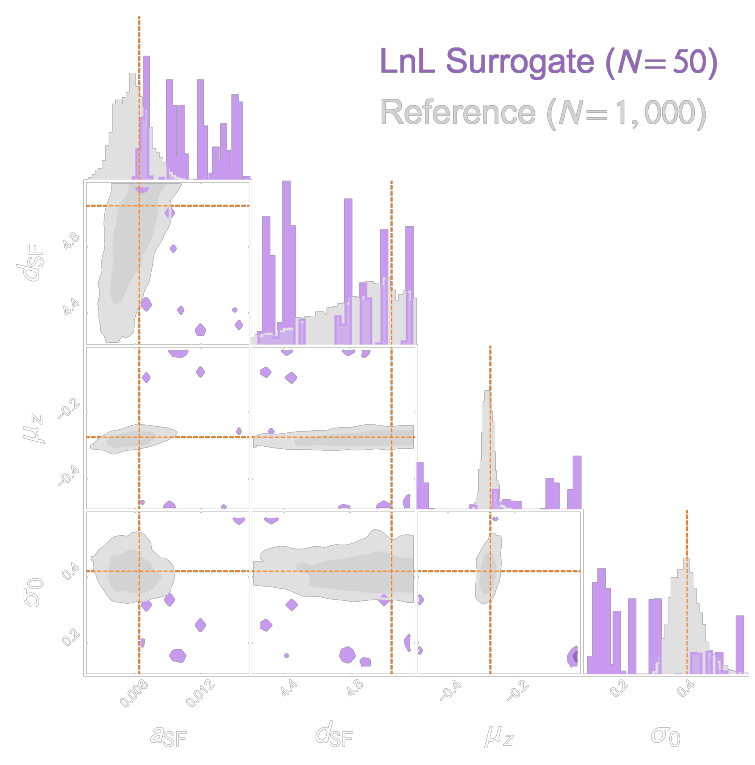
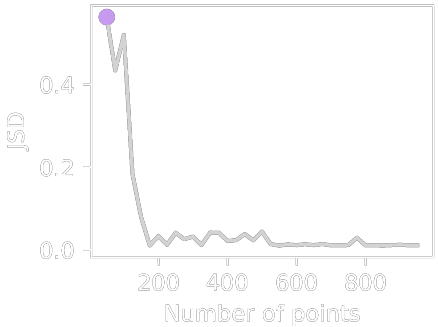
- Forward population modelling challenging
- GP surrogate for LnL can help
- GP surrogate can use fewer training points to obtain similar posteriors
- ***Some Drawbacks:***
  - Need to retrain for new data
  - Tuning parameters?

- Build a better acquisition function
- Increase Λ
- Determine COMPAS population sizes needed for different Λ


LnL Surrogate (N = 50)
Reference (N = 1,000)
g_{SF}
d_{SF}
μ_z
σ_0
ISD
0.4
0.2
0.0
200
400
600
800
Number of points


LnL Surrogate (N = 50)
Reference (N = 1,000)
g_{SF}
d_{SF}
μ_z
σ_0
ISD
0.4
0.2
0.0
200
400
600
800
Number of points


LnL Surrogate ($N = 50$)
Reference ($N = 1,000$)
a_{SF}
d_{SF}
μ_z
σ_0
0.008
0.012
4.4
4.8
−0.4
−0.2
0.2
0.4


JSD
0.0
0.2
0.4
200
400
600
800
Number of points

- GP surrogate for LnL can help

to obtain similar posteriors

- GP surrogate can use fewer training points

- Forward population modelling challenging

- Need to retrain for new data

- Tuning parameters?

- ***Some Drawbacks:***


Increase

- Determine COMPAS population sizes

needed for different

- Build a better acquisition function

19

EXTRA

PLOTS