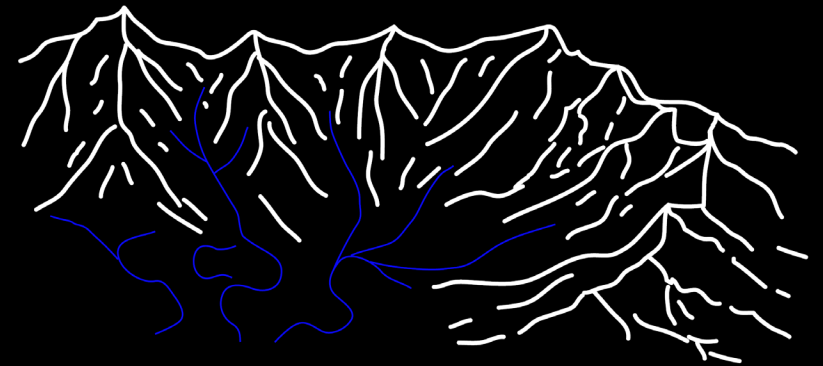
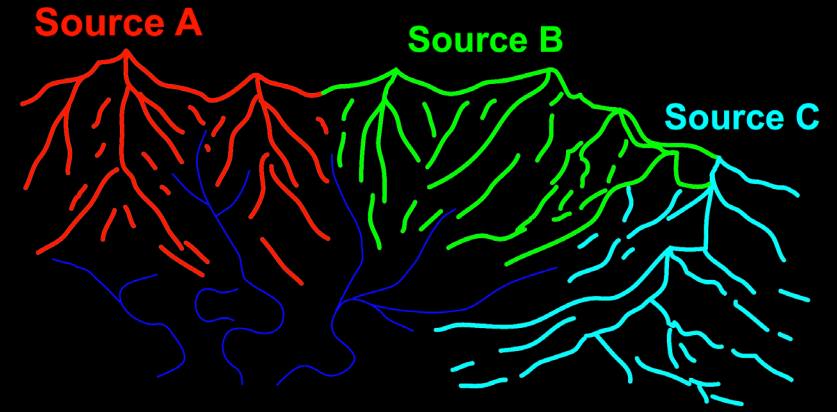
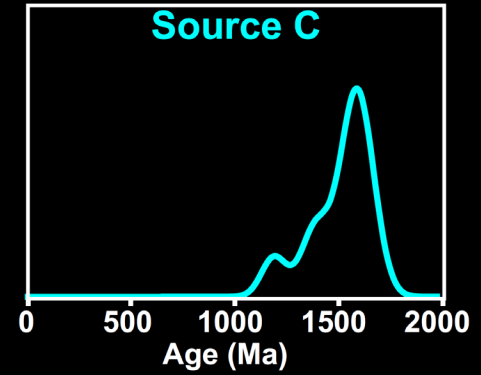
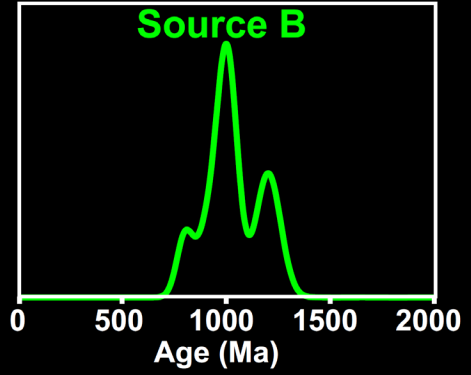
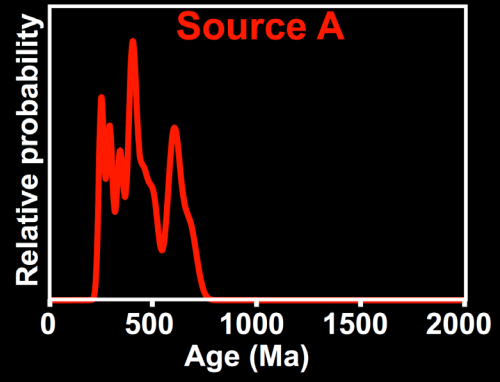


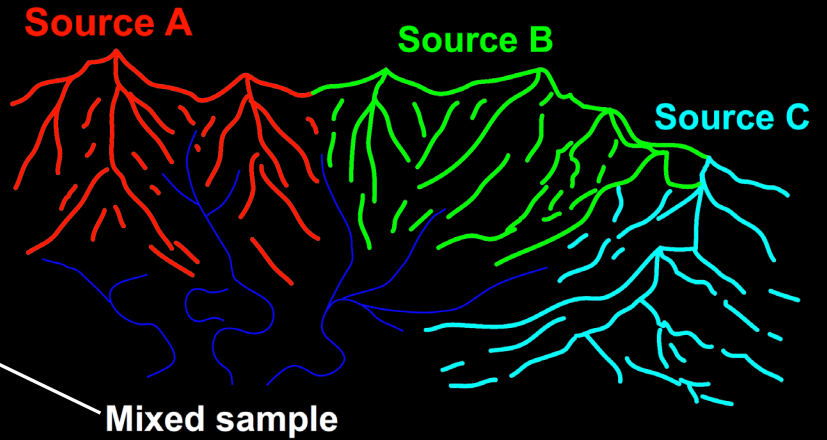
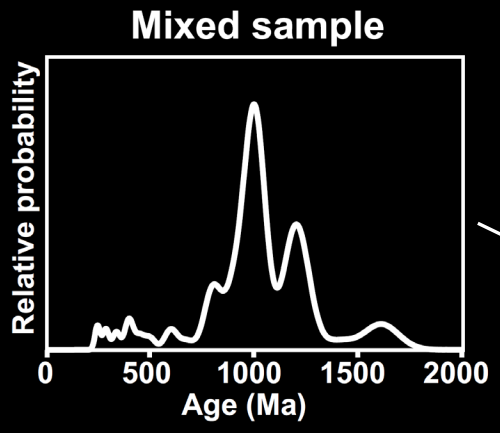
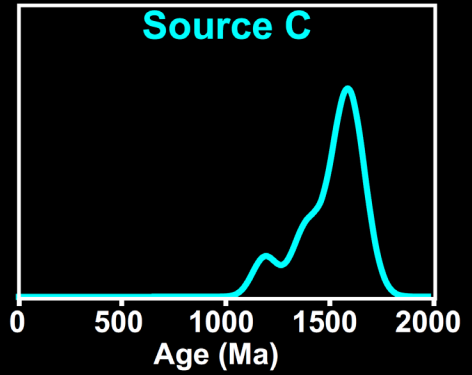
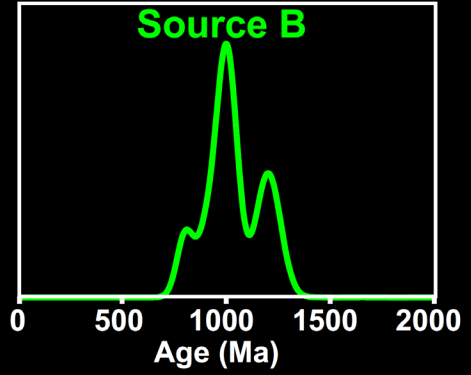
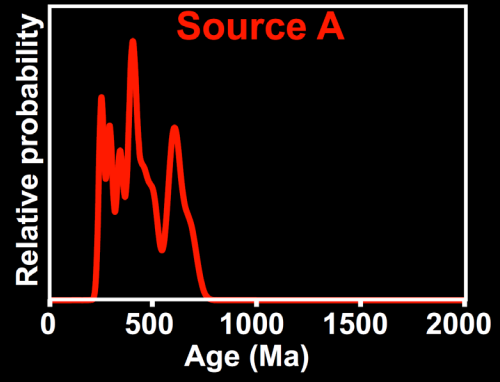
Simple geologic example



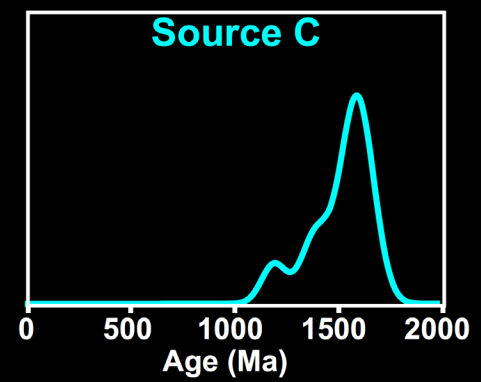
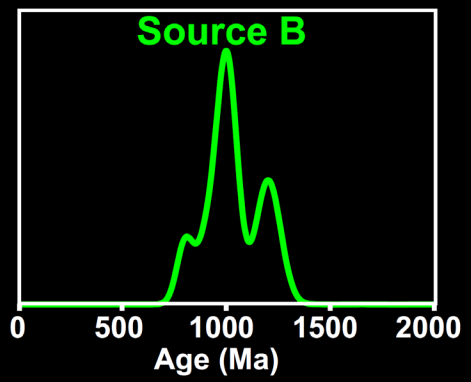
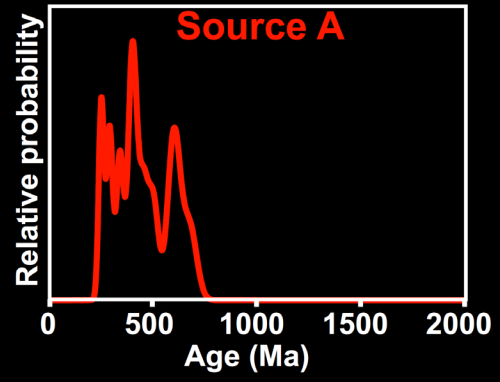
Simple geologic example



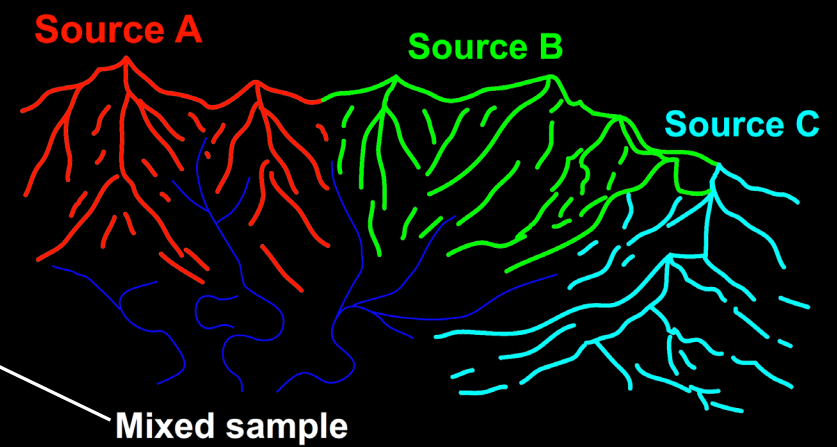
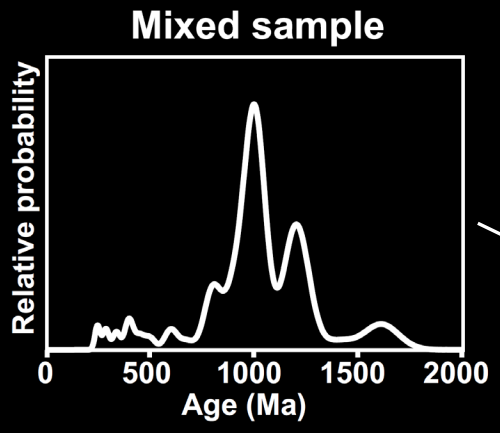
Simple geologic example



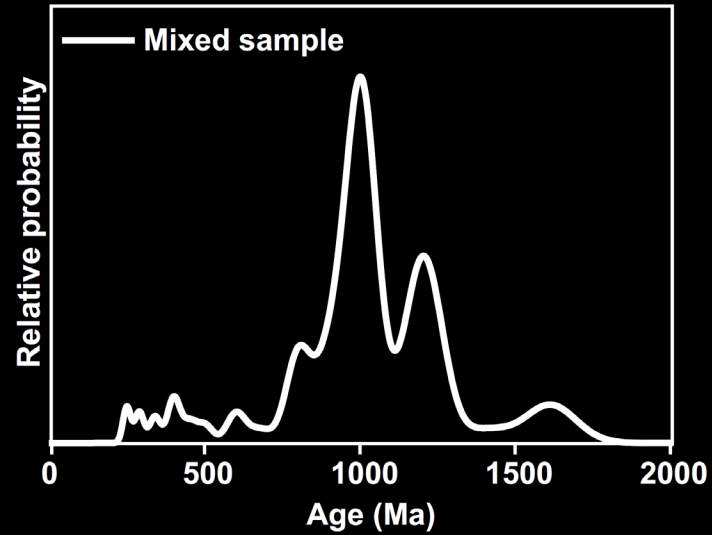
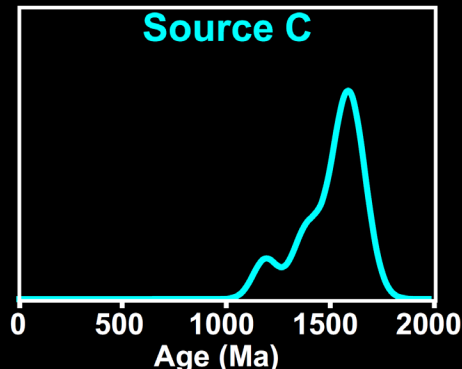
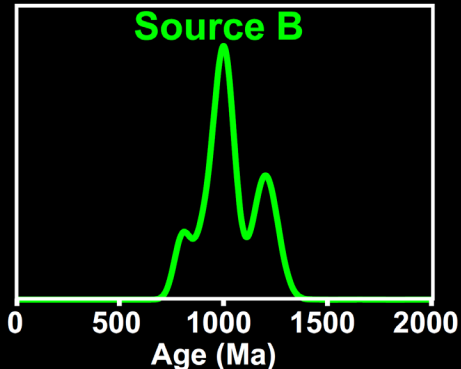
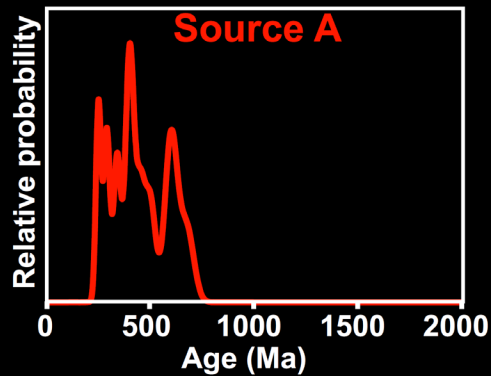
Simple geologic example



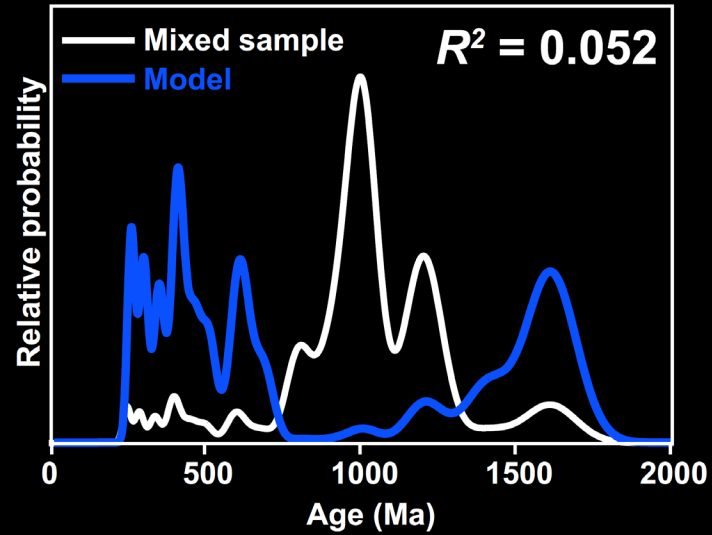
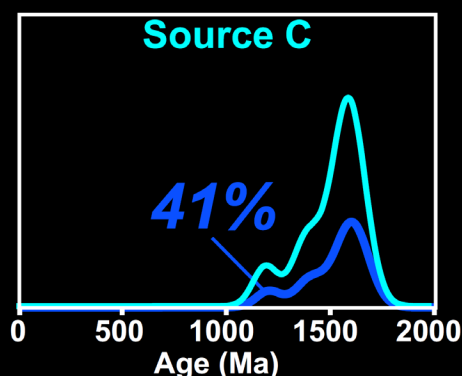
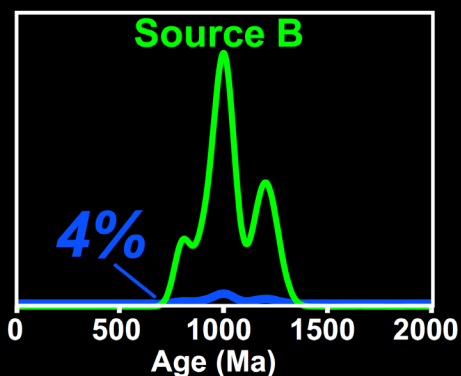
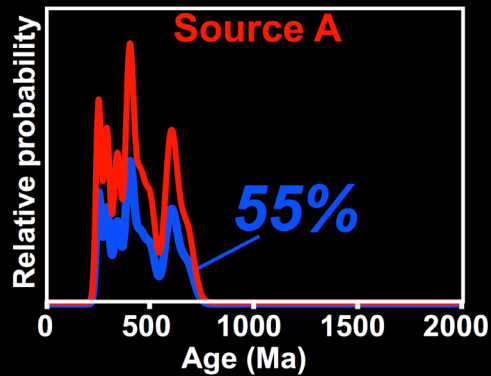
Source A + Source B + Source C = 100% Mixed Sample



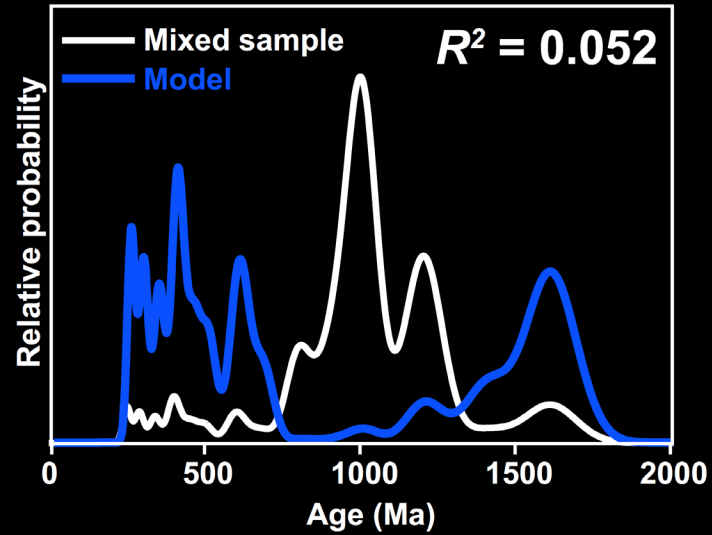
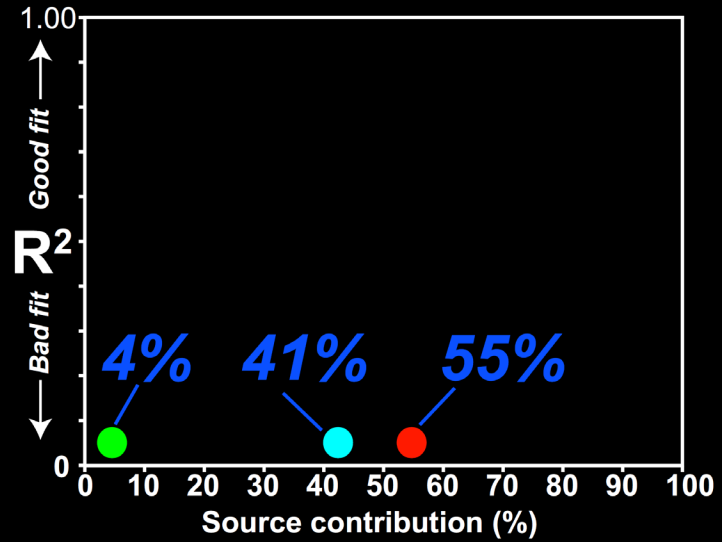
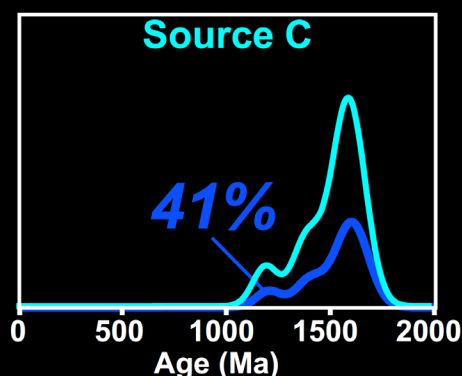
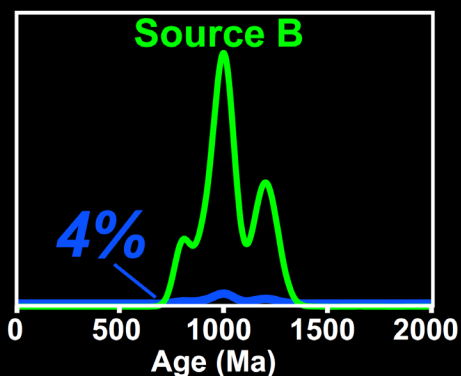
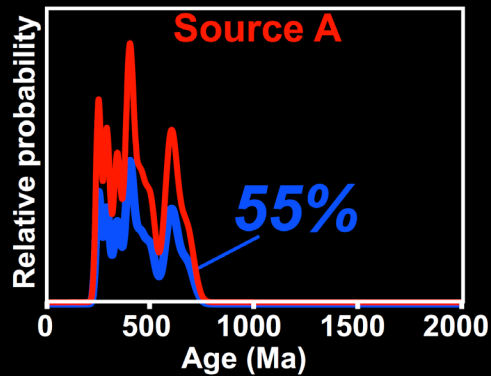
Inverse Monte Carlo model



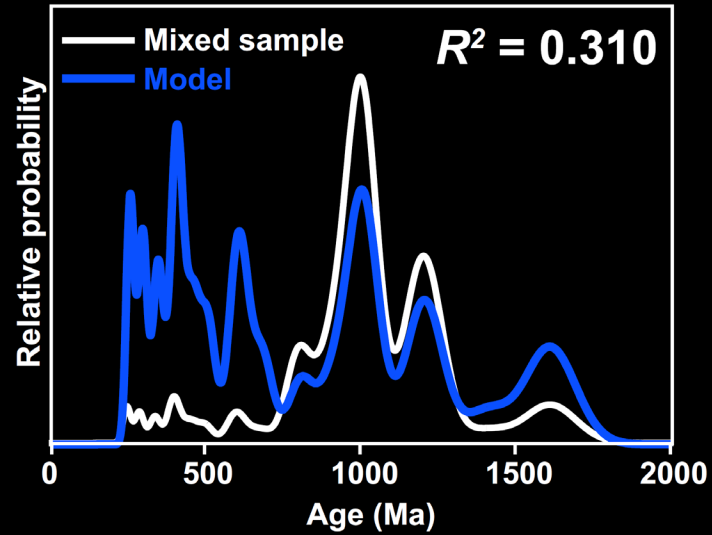
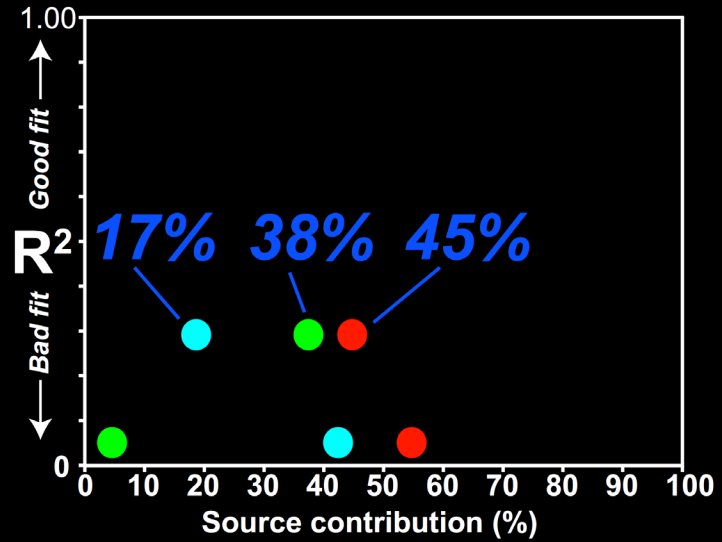
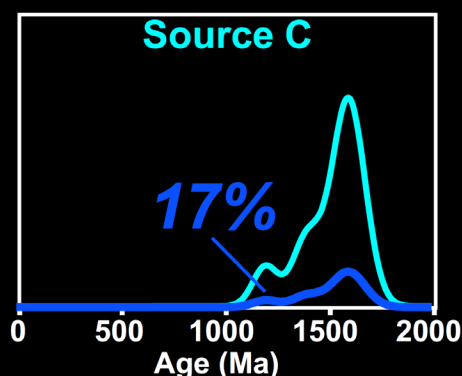
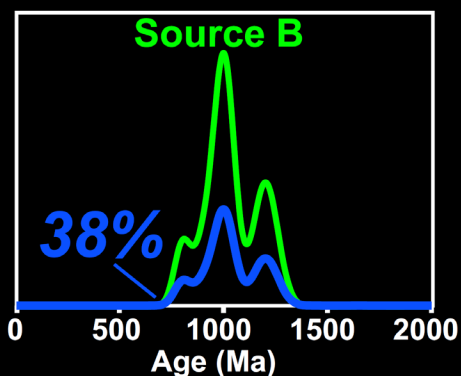
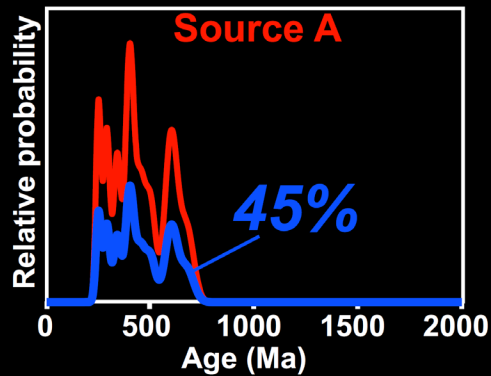
Inverse Monte Carlo model



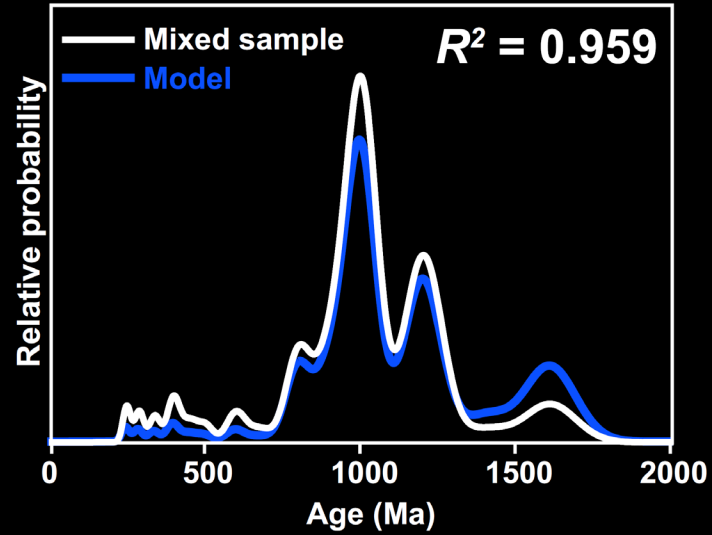
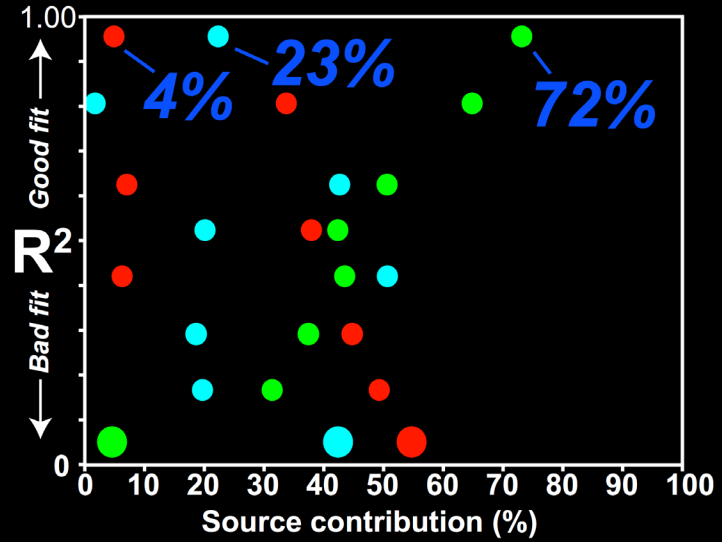
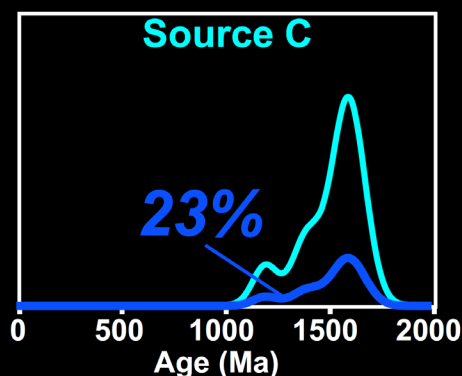
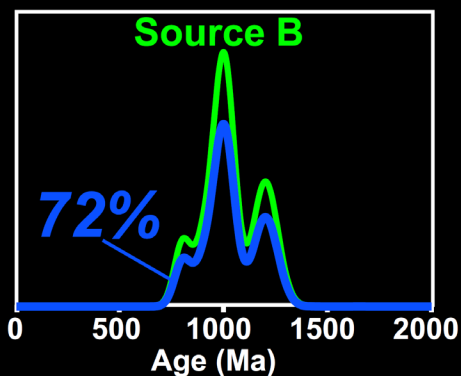
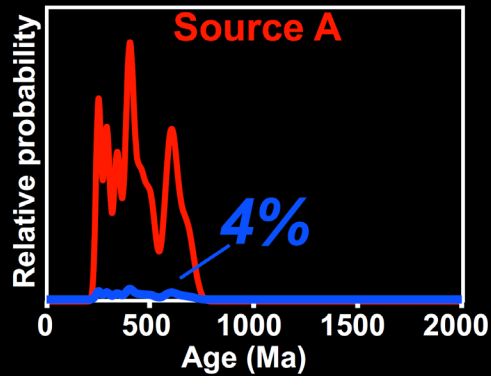
Inverse Monte Carlo model



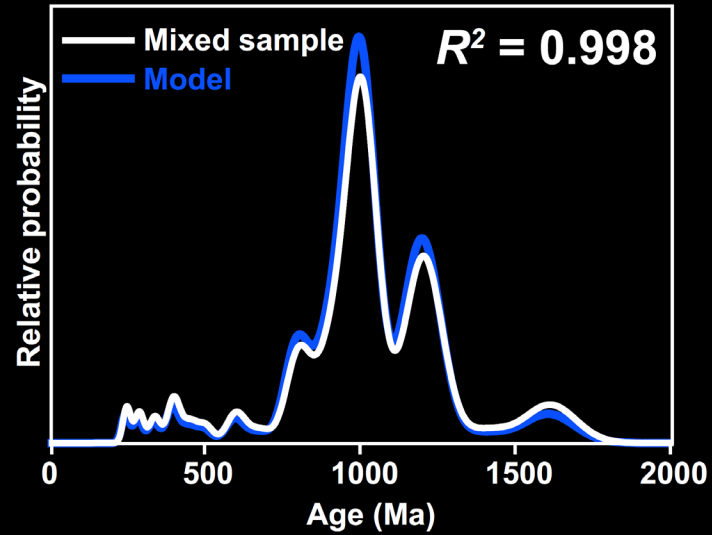
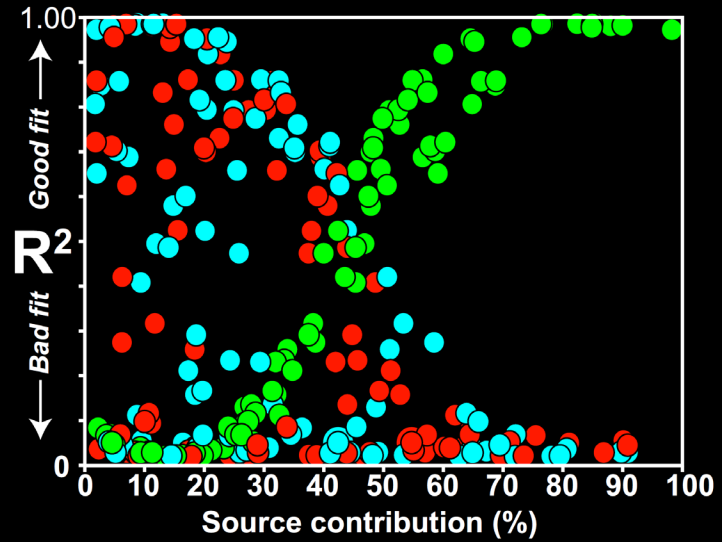
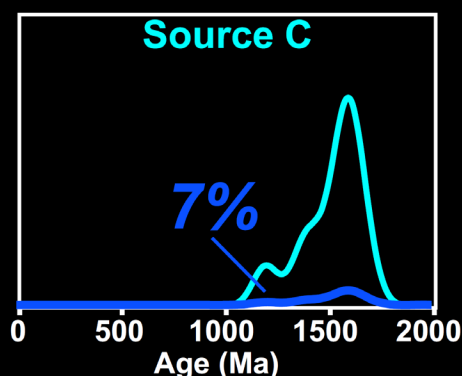
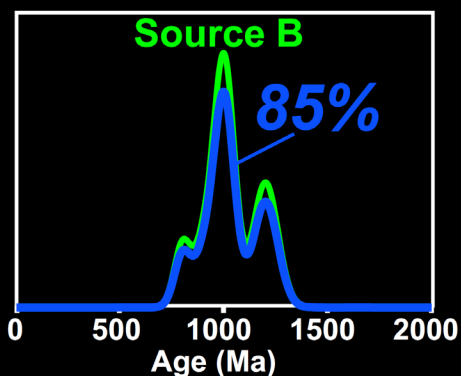
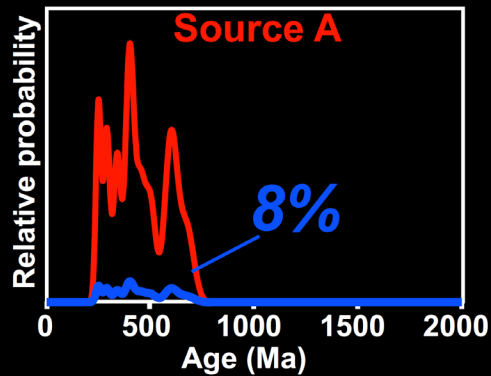
Inverse Monte Carlo model



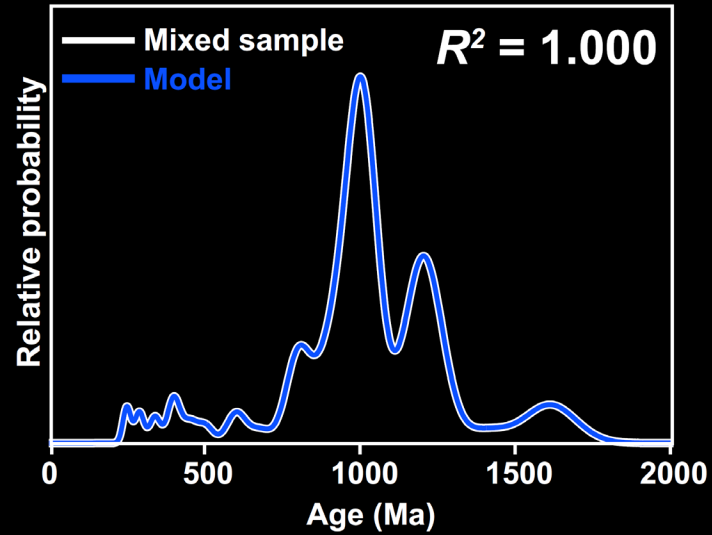
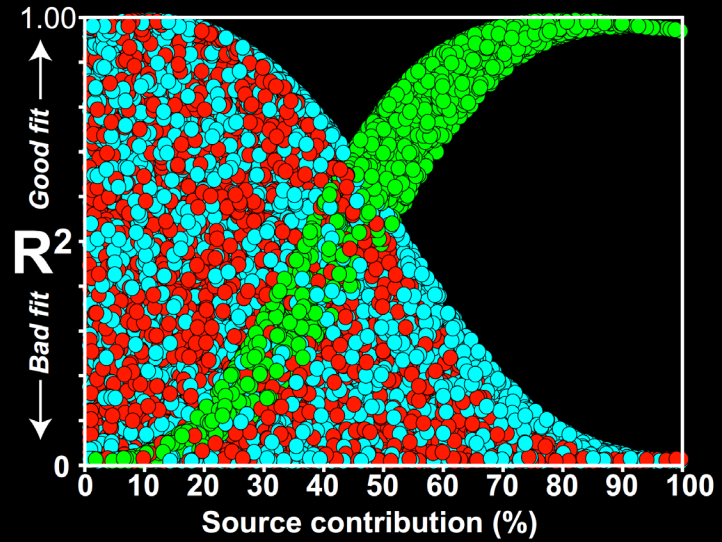
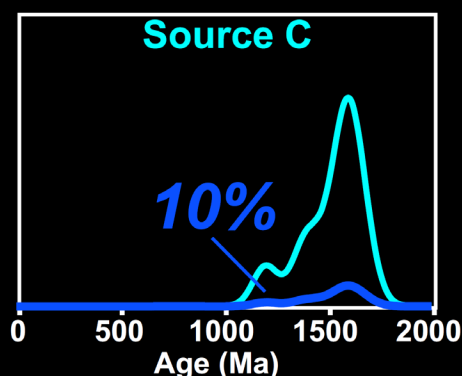
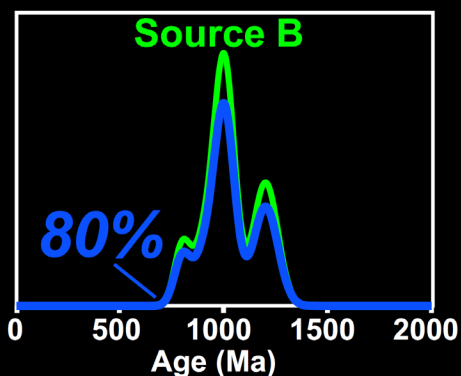
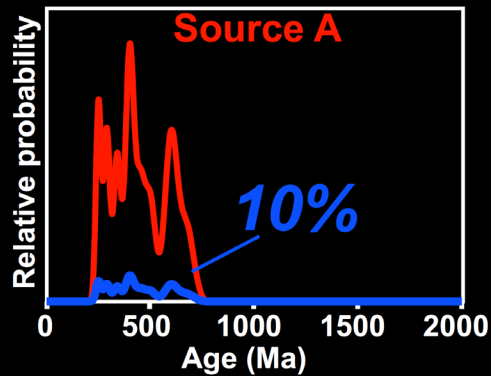
Inverse Monte Carlo model



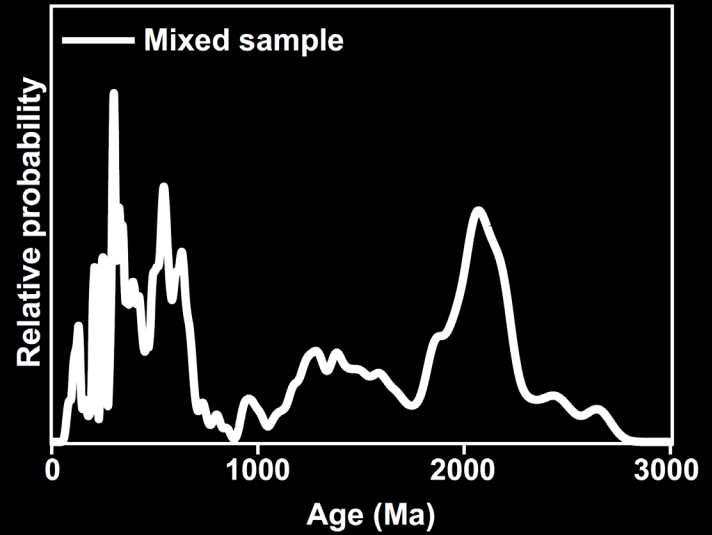
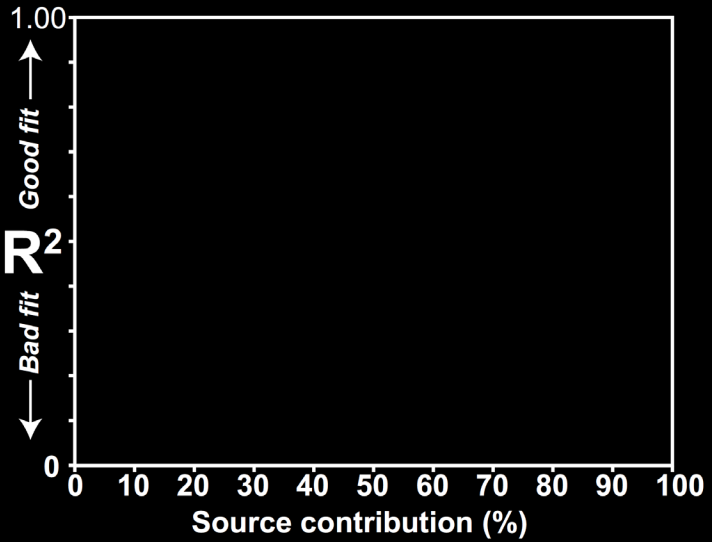
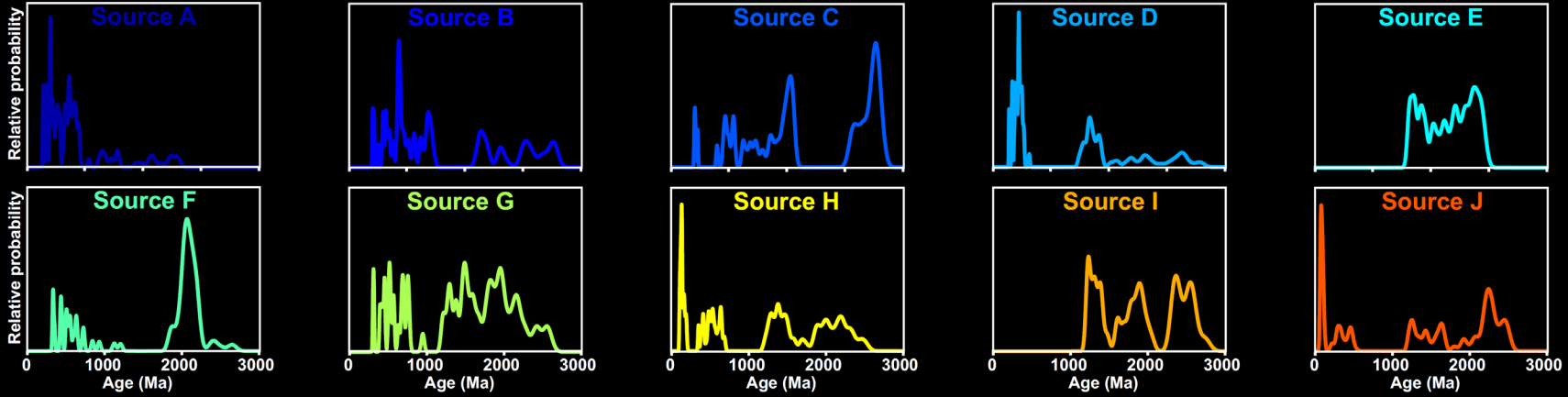
Inverse Monte Carlo model



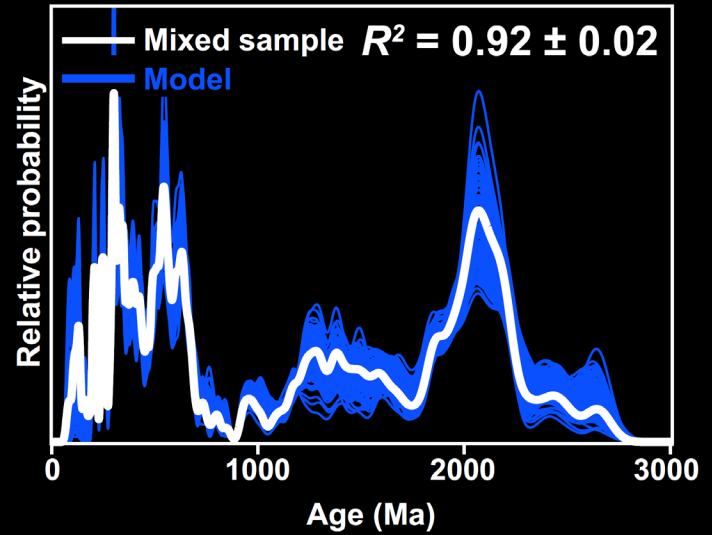
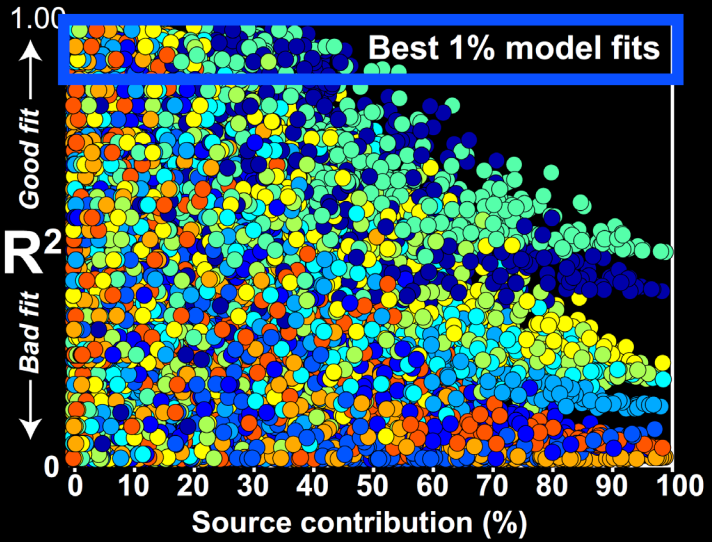
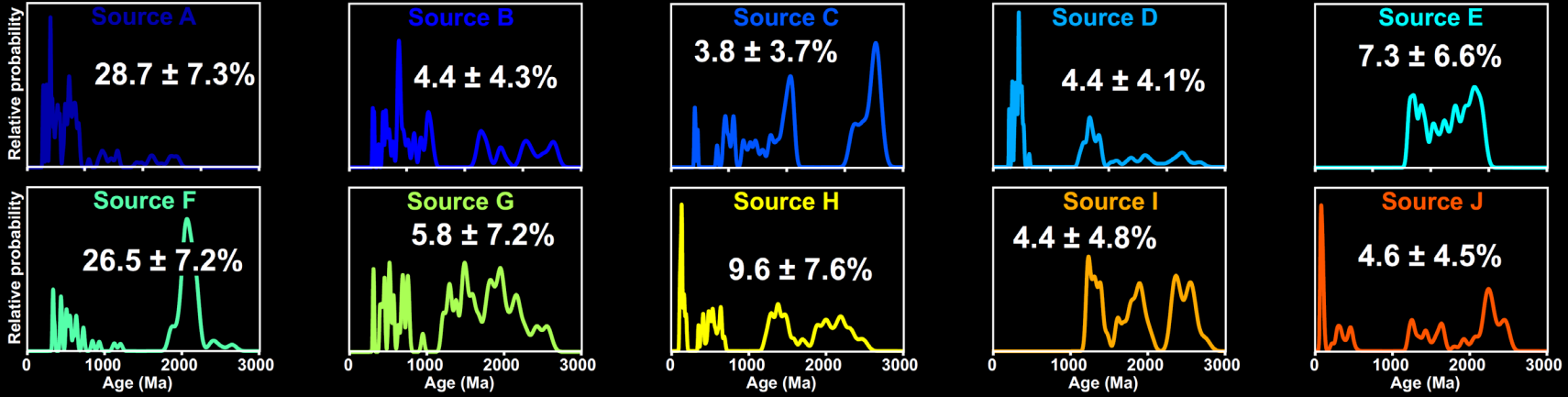
Inverse Monte Carlo model



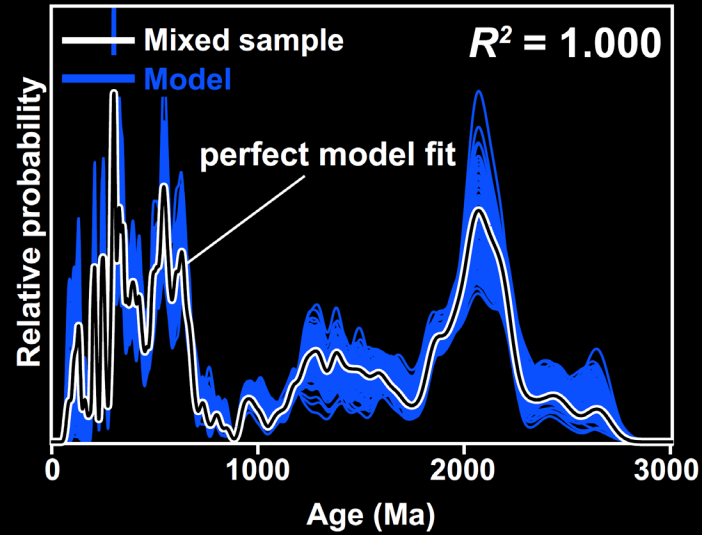
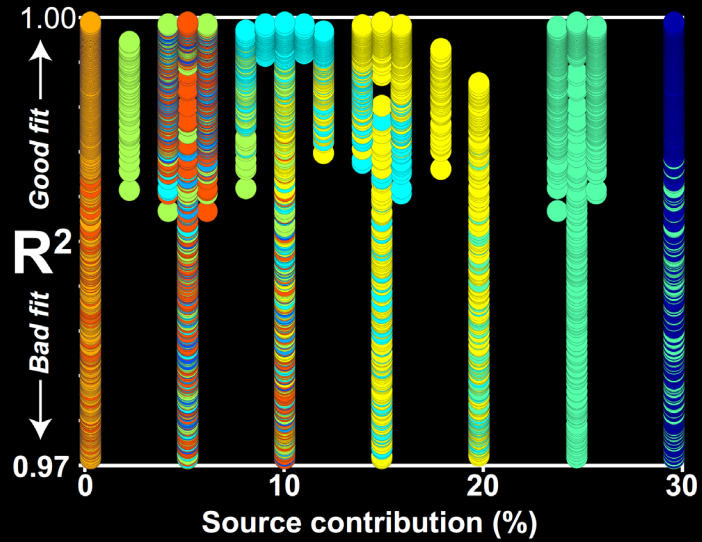
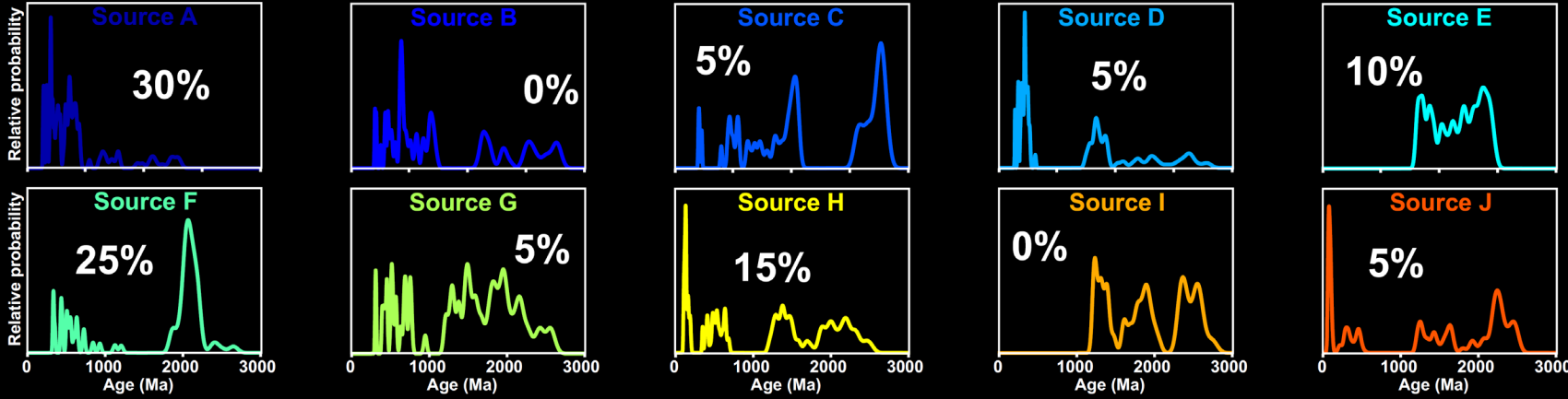
Complex synthetic data



Complex synthetic data



Forward optimization routine



DZmix available for Windows and macOS

Input uncertainty: 1sigma 2sigma

Model trials: 1000

Percent best fits: 1

Run Monte Carlo model

Clear Plots

Density distribution: Probability density plots Kernel density estimates

Bandwidth (Myr):

Optimization: Minimum function search Iterative optimization

Best fits to constrain subsequent iterations: 5

Run optimization

Subsample best fit

Visualize sample space: Plot Watch it plot

Additional options: Monte Carlo scaling

Sub-sample raw ages:

Subsamples (S): 50

Number of ages (s): 100

Age range: Age min & max: 0 3500

Mvr interval for PDPs: 1

Threshold cutoffs: Cross correlation: 0

KS and Kuiper tests: 1

Export results: Model Results, Figures, Age distributions

Source samples (N): 10

Total samples: 11

Mixed samples: 1

Smallest source sample (n): 100

Monte Carlo unmixing model (scale source distributions)

Mean Cross-correlation coefficient: 0.939 +/- 0.017

Sample Names	Relative Contribution	Standard Deviation
1 Source_01	0.2798	0.0698
2 Source_02	0.0613	0.0419
3 Source_03	0.0238	0.0232

Plot relative source contributions

Source and Mixed PDPs

Kuiper test V Statistic

Mean V value: 0.063 +/- 0.012

Sample Names	Relative Contribution	Standard Deviation
1 Source_01	0.2513	0.0537
2 Source_02	0.0701	0.0462
3 Source_03	0.0341	0.0376

Plot relative contributions

Source and Mixed CDFs

KS test D Statistic

Mean D value: 0.045 +/- 0.009

Sample Names	Relative Contribution	Standard Deviation
1 Source_01	0.2296	0.0680
2 Source_02	0.0613	0.0387
3 Source_03	0.0188	0.0199

Plot relative contributions

Sundell, K.E., and Saylor, J.E., 2017. Unmixing detrital geochronology age distributions. *Geochemistry, Geophysics, Geosystems*

Download *DZmix* at [Github.com/kurtsundell/DZmix](https://github.com/kurtsundell/DZmix)