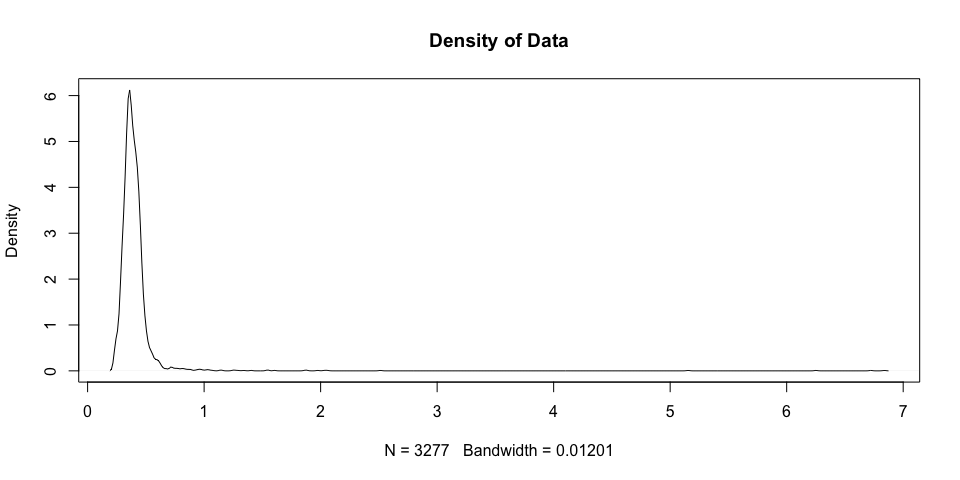
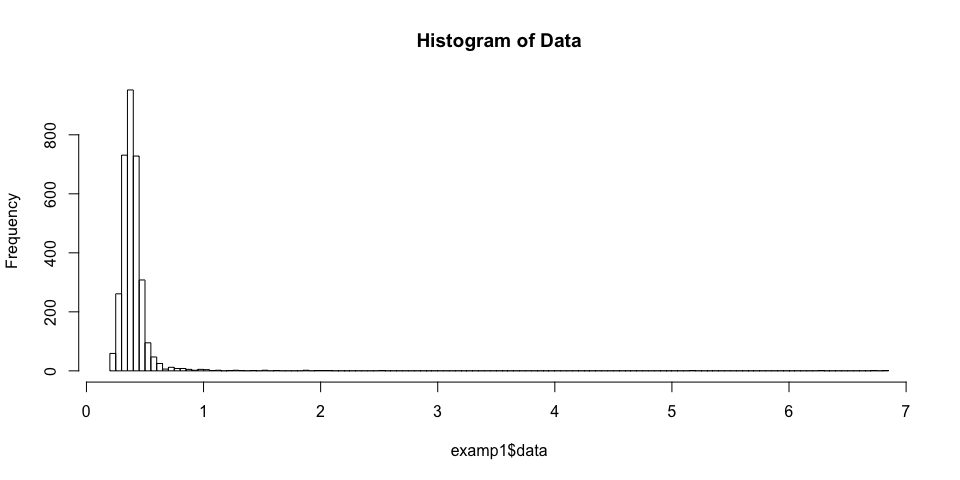
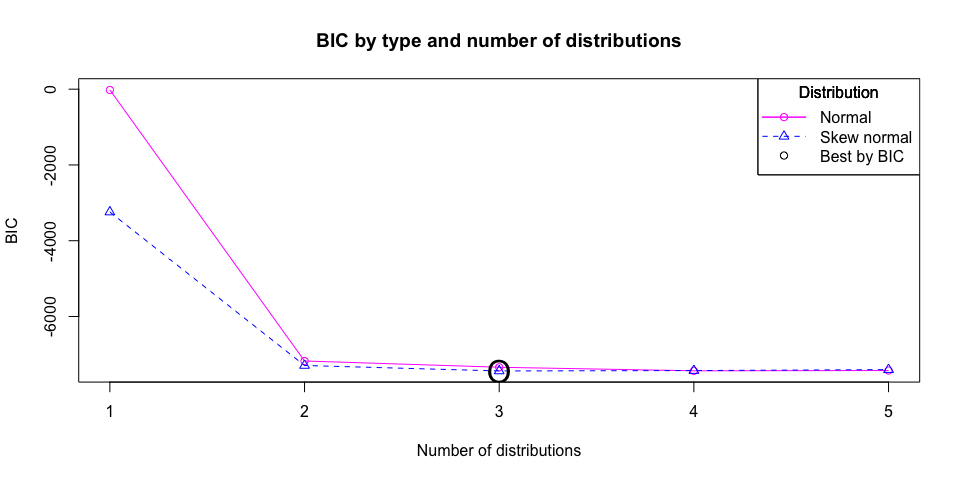
Mixture Modeling Paper Results

Sarah Sullivan

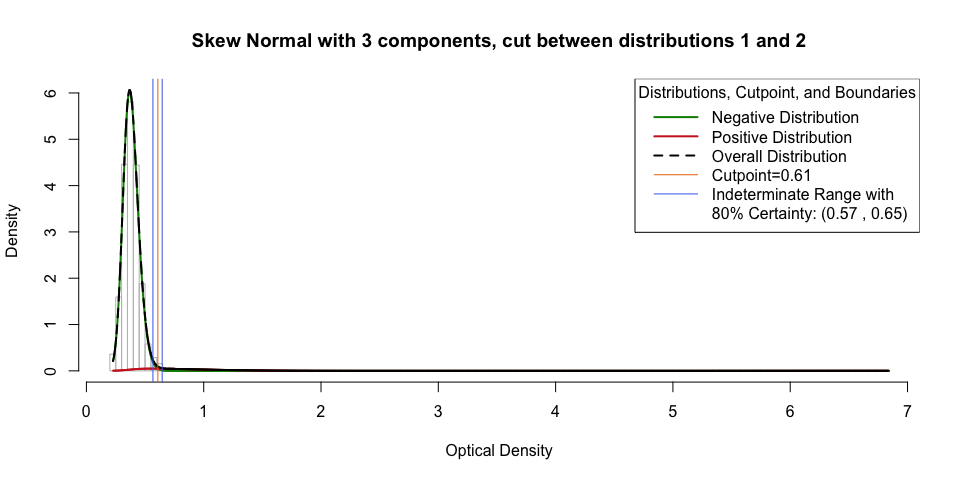
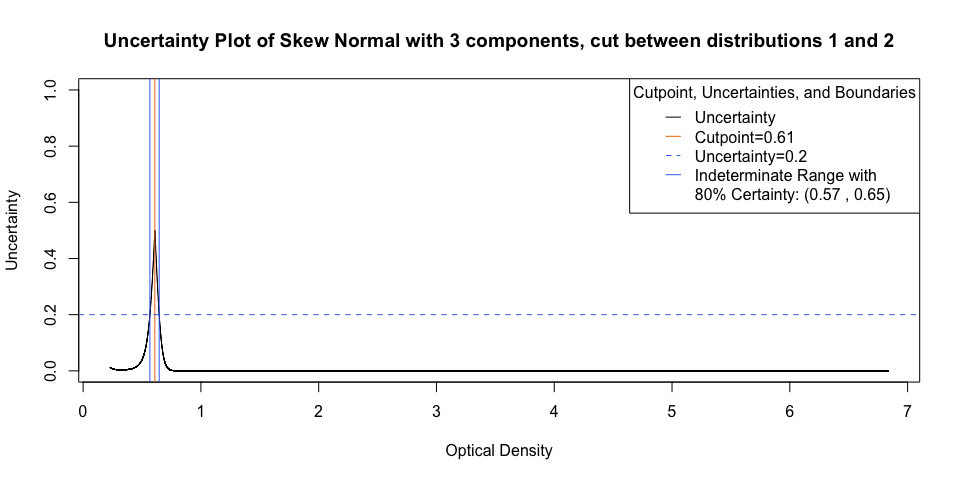
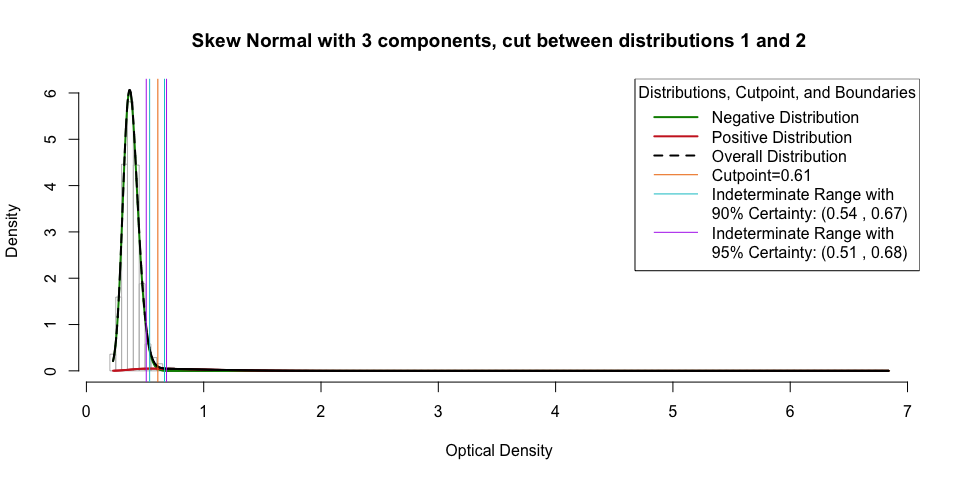
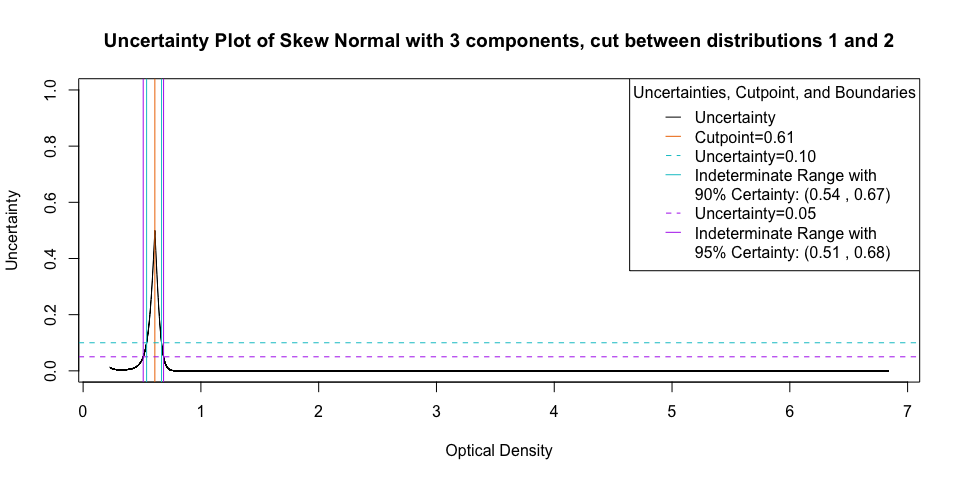
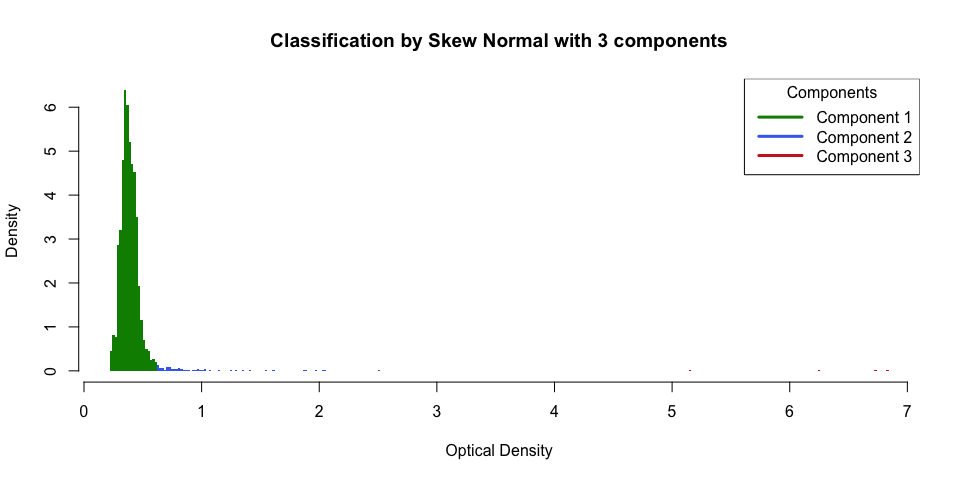
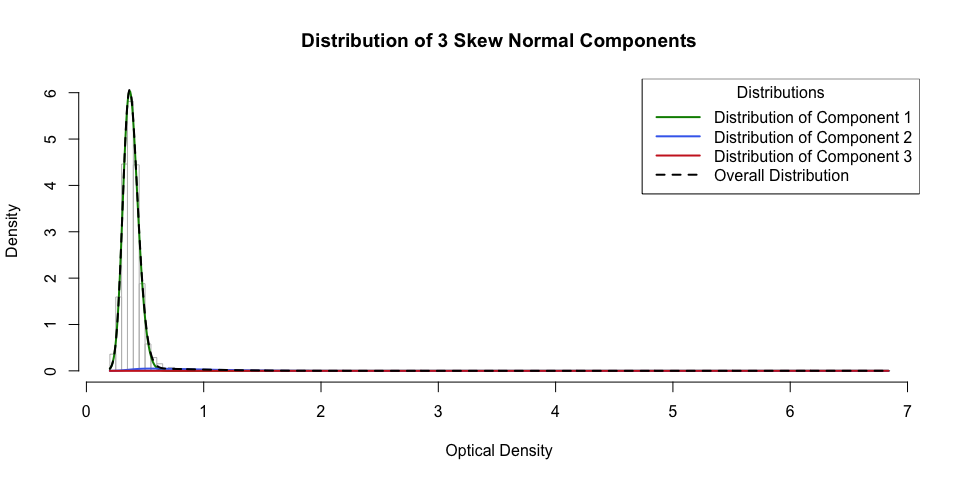
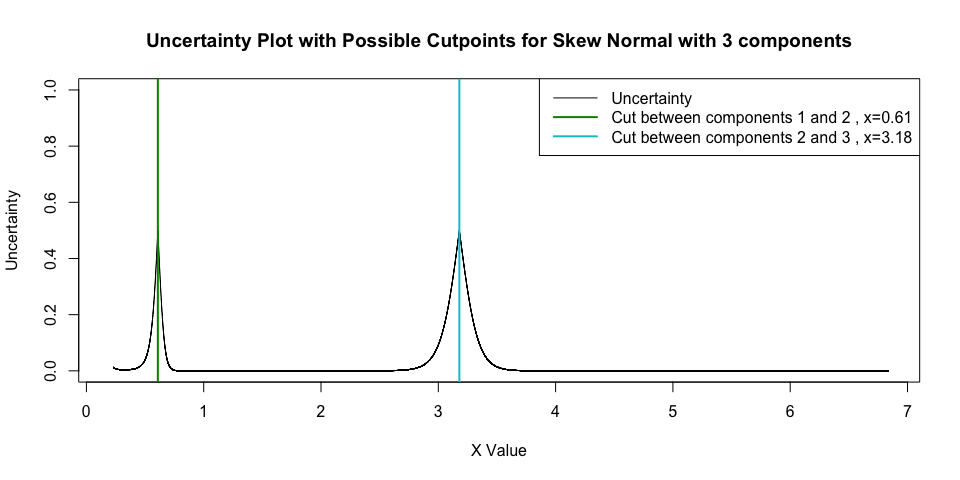
March 8, 2017



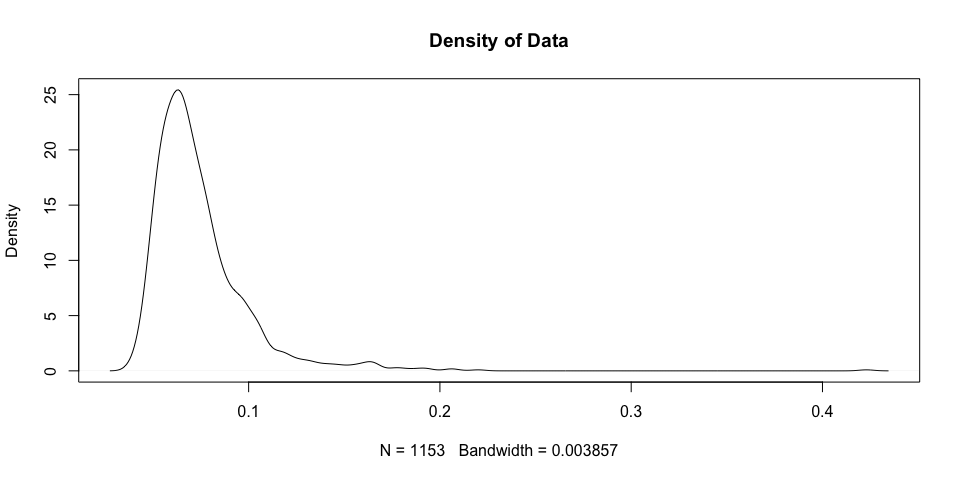
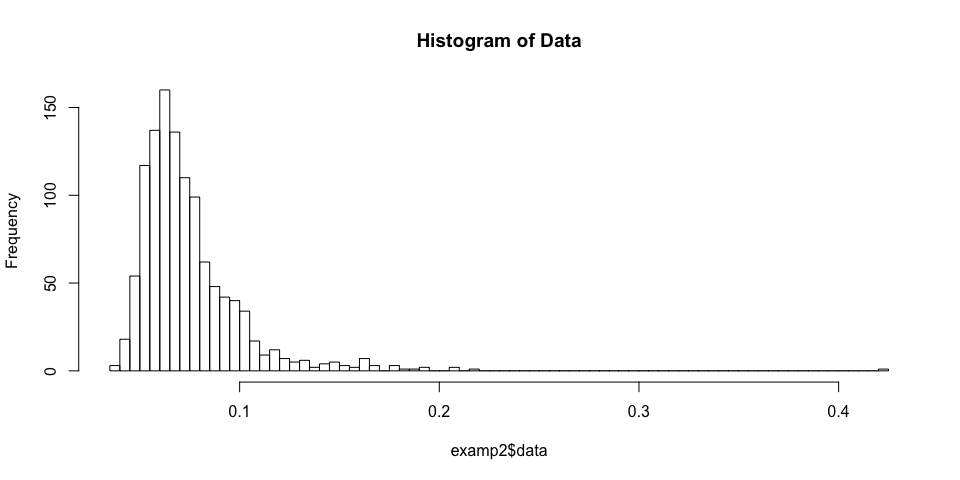
## [1] "The best model by BIC is Skew normal with 3 components"  
## [1] ""  
## [1] "Bayesian Information Criterion (BIC) Matrix"  
## [1] "BIC should be minimized and a difference of 10 BIC indicates strong evidence that the model with lower BIC is superior"  
## Normal Skew normal  
## 1 Component(s): -20.46063 -3242.631  
## 2 Component(s): -7174.86787 -7293.374  
## 3 Component(s): -7340.69321 -7437.852  
## 4 Component(s): -7435.03427 -7427.607  
## 5 Component(s): -7426.66472 -7402.510  
## [1] "Below is a table of the BIC's of the most common distribution and number of component combinations to base a cutpoint on"  
## Description BIC   
## Best Overall Skew normal with 3 components -7437.852  
## Best Skew normal Skew normal with 3 components -7437.852  
## Best Normal Normal with 4 components -7435.034  
## Two Skew normal Skew normal with 2 components -7293.374  
## Two Normal Normal with 2 components -7174.868



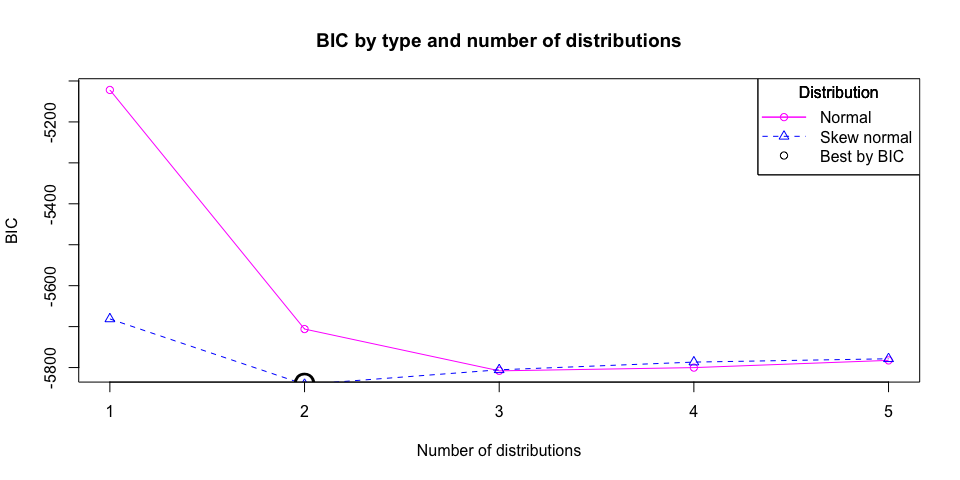
## Number Negative Number Positive  
## Cut between components 1 and 2 3187 90  
## Cut between components 2 and 3 3273 4  
## Percent Negative Percent Positive  
## Cut between components 1 and 2 97.25% 2.75%  
## Cut between components 2 and 3 99.88% 0.12%



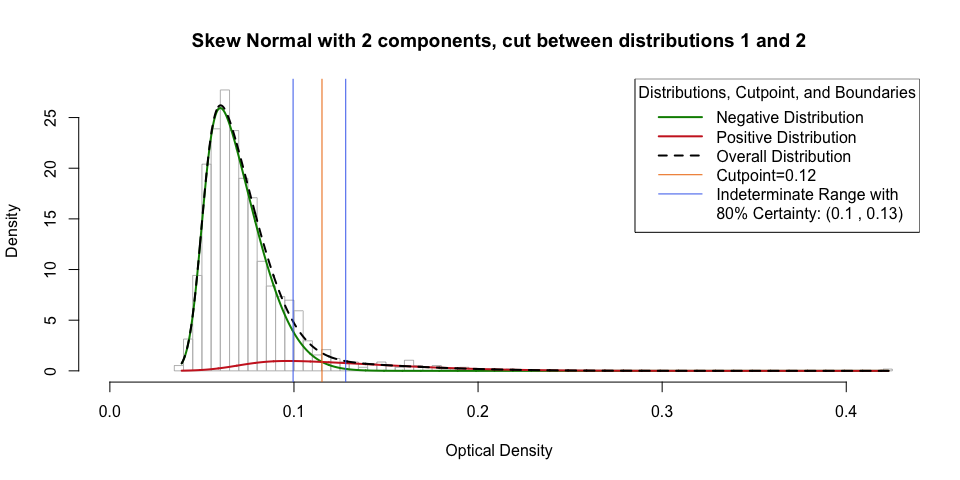
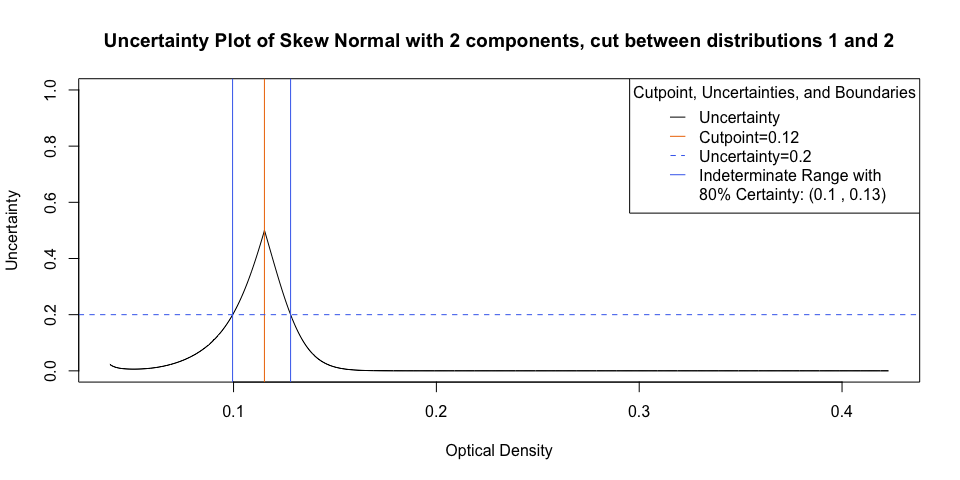
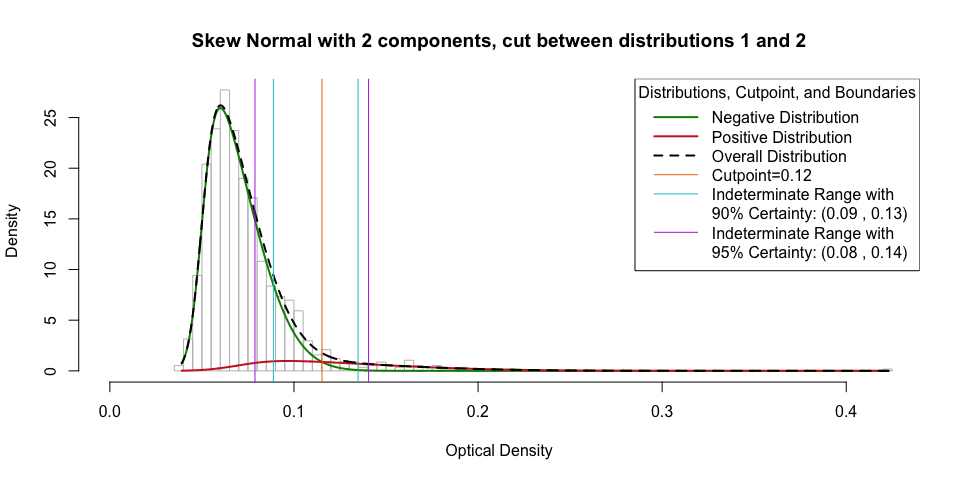
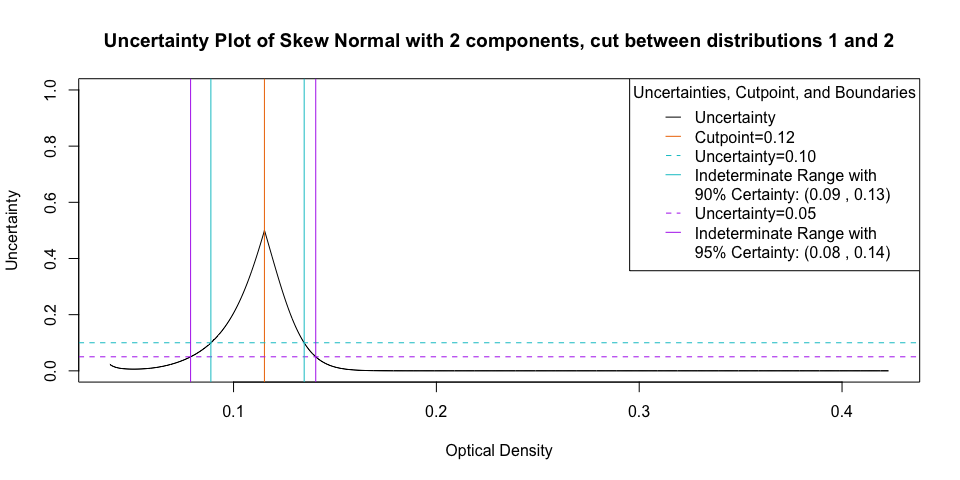
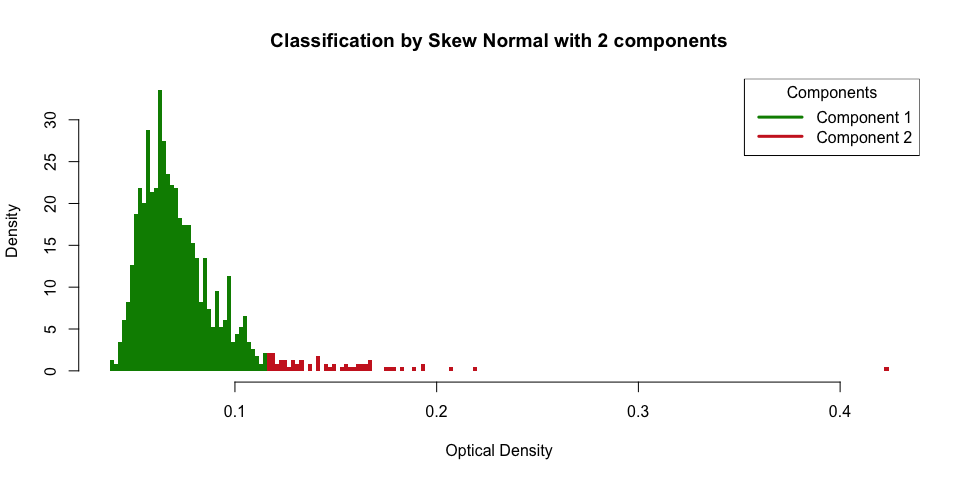
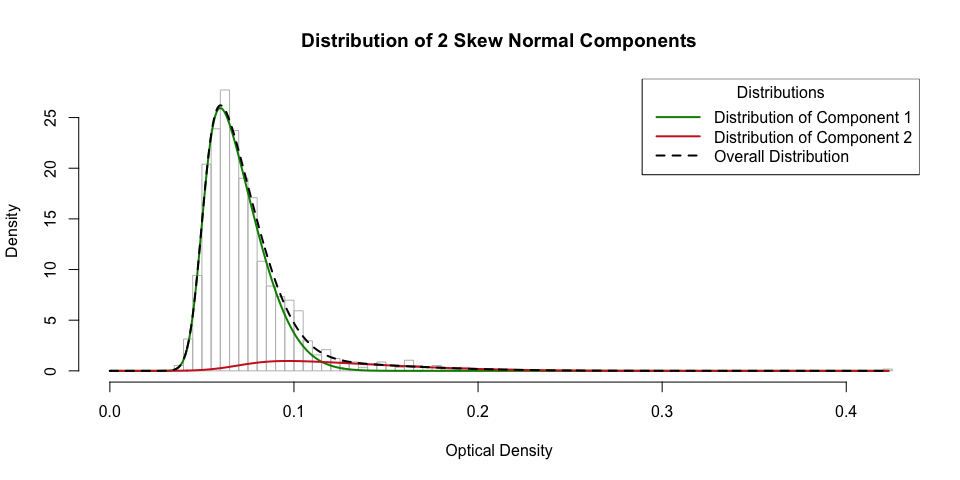
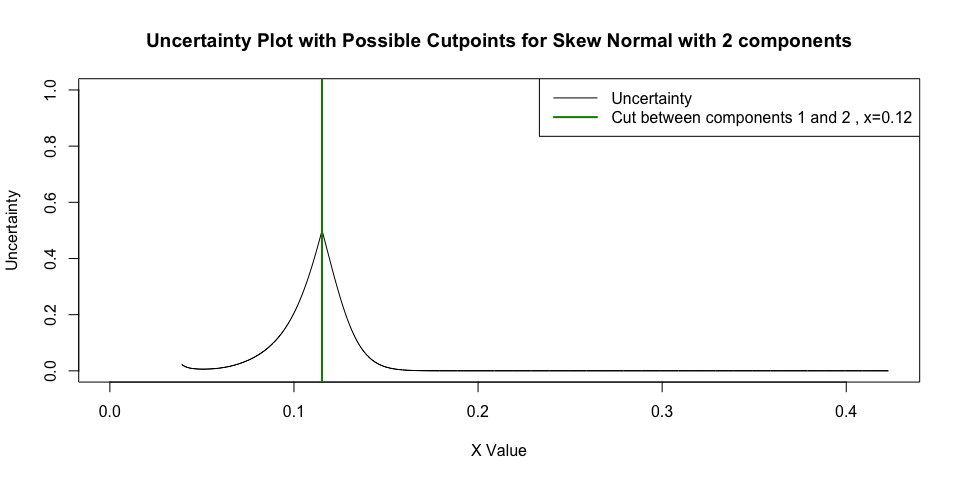
## No. Neg No. Indet No. Pos % Neg % Indet % Pos  
## Raw Cutoff 3868 0 101 97.46% 0% 2.54%  
## Cutoff with 80% Certainty 3835 52 82 96.62% 1.31% 2.07%  
## Cutoff with 90% Certainty 3791 98 80 95.52% 2.47% 2.02%  
## Cutoff with 95% Certainty 3736 158 75 94.13% 3.98% 1.89%



## [1] "The best model by BIC is Skew normal with 2 components"  
## [1] ""  
## [1] "Bayesian Information Criterion (BIC) Matrix"  
## [1] "BIC should be minimized and a difference of 10 BIC indicates strong evidence that the model with lower BIC is superior"  
## Normal Skew normal  
## 1 Component(s): -5121.933 -5681.232  
## 2 Component(s): -5705.934 -5841.175  
## 3 Component(s): -5808.031 -5805.496  
## 4 Component(s): -5800.123 -5786.655  
## 5 Component(s): -5782.535 -5778.538  
## [1] "Below is a table of the BIC's of the most common distribution and number of component combinations to base a cutpoint on"  
## Description BIC   
## Best Overall Skew normal with 2 components -5841.175  
## Best Skew normal Skew normal with 2 components -5841.175  
## Best Normal Normal with 3 components -5808.031  
## Two Skew normal Skew normal with 2 components -5841.175  
## Two Normal Normal with 2 components -5705.934



## Number Negative Number Positive  
## Cut between components 1 and 2 1084 63  
## Percent Negative Percent Positive  
## Cut between components 1 and 2 94.51% 5.49%



## No. Neg No. Indet No. Pos % Neg % Indet % Pos  
## Raw Cutoff 1086 0 63 94.52% 0% 5.48%  
## Cutoff with 80% Certainty 1025 81 43 89.21% 7.05% 3.74%  
## Cutoff with 90% Certainty 936 178 35 81.46% 15.49% 3.05%  
## Cutoff with 95% Certainty 812 305 32 70.67% 26.54% 2.79%