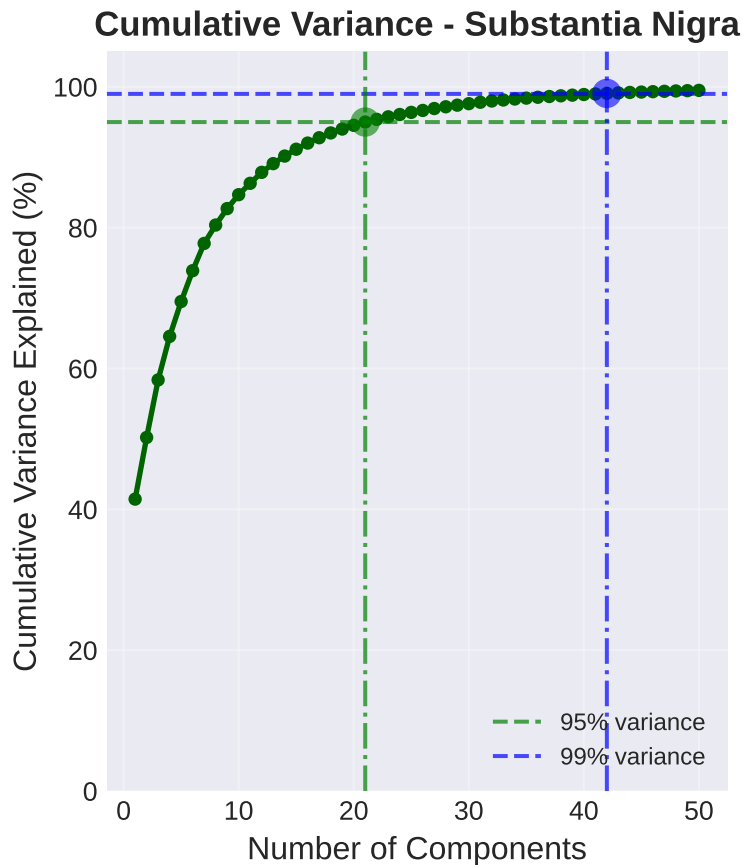
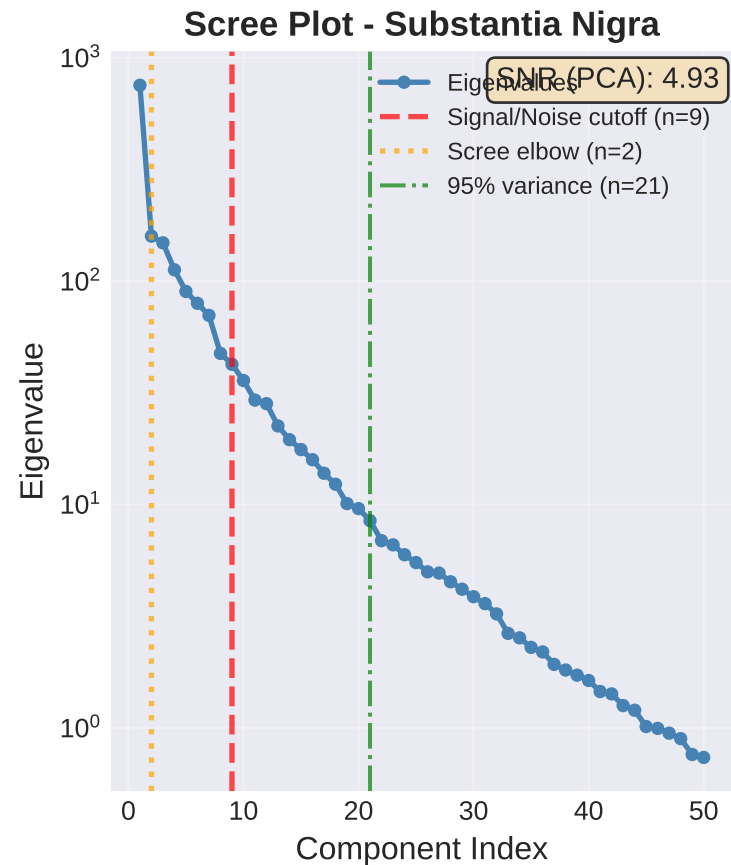


# Signal-to-Noise Ratio Analysis - Substantia Nigra



## SNR Analysis Summary

### Signal Quality:

Moderate (SNR 3-10): Adequate signal, moderate noise

### SNR Estimates:

PCA-based: 4.93

Variance-based: 0.00

### Effective Dimensionality:

95% variance: 21 PCs

99% variance: 42 PCs

Scree elbow: 2

### Recommendations:

K range: 2-2 (moderate signal)

### Prior strength:

MODERATE priors (SNR 2-5): Use  $\tau_0$  floor (current: 0.3)

### Convergence:

MODERATE: May need longer chains or stronger priors