

## Supplemental Appendix V

This supplemental appendix provides an example demonstrating the use of *FRStat* on a fingerprint image pair from NIST Special Database 27 [26]. Figure SAV-1 illustrates the manual annotation of fifteen fingerprint features believed to correspond. Figure SAV-2 demonstrates the *FRStat* results output.

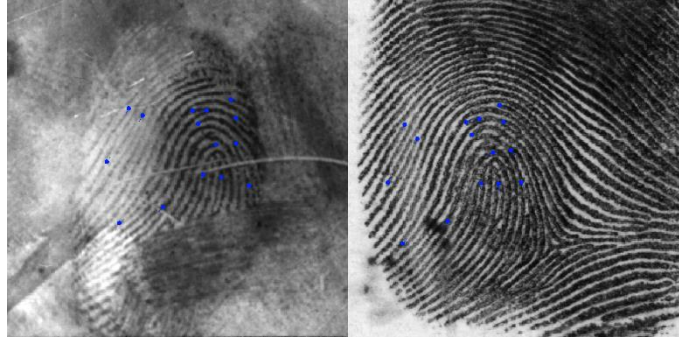


Figure SAV-1. Example latent fingerprint image (left) and corresponding reference fingerprint image (right) with fifteen features annotated (blue) believed to correspond.

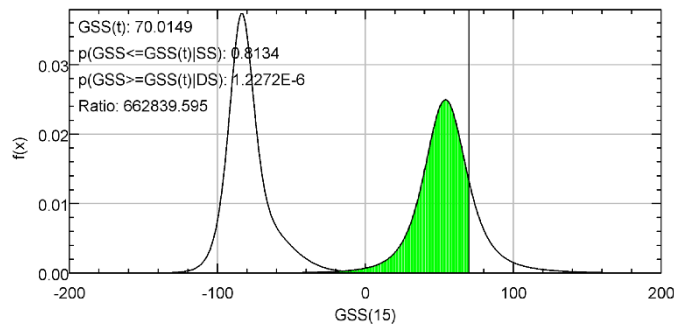


Figure SAV-2. *FRStat* results output from the annotated features in figure SAV-1. The Global Similarity Statistic,  $GSS(t)$ , is 70.0149. The probability of observing a  $GSS(t)$  value of 70.0149 or lower among mated (same) source impressions is approximately 0.8134. The probability of observing a  $GSS(t)$  value of 70.0149 or greater among non-mated (different) source impressions is approximately 1.2272 E-6 (0.0000012272). Taken together, the probability of observing a  $GSS(t)$  value of 70.0149 is approximately 662,838 times greater when impressions are made by the same source rather than by different sources.