## **Description of Additional Supplementary Files**

File name: Supplementary Data 1

**Description:** Summary of sequencing quality and depth per dataset.

File name: Supplementary Data 2

**Description:** Percentage of reads aligned to Y chromosome per assigned cluster in each dataset.

File name: Supplementary Data 3

Description: Percentage of reads on X chromosome and in the XIST gene compared to the Yleaf

results per assigned cluster in each dataset.

File name: Supplementary Data 4

**Description:** Paternal and Maternal ancestry prediction after mixture deconvolutio comparison to

the available reference data.

File name: Supplementary Data 5

**Description:** Biparental ancestry assessment in each cluster of the deconvoluted mixtures towards

five major populations assigned by 1000 Genomes.

File name: Supplementary Data 6

**Description:** Allele match toward the exome reference per cluster after mixture deconvolution for

each deconvoluted mixture.

File name: Supplementary Data 7

**Description:** Calculation of forensic parameters per cluster after mixture deconvolution.

File name: Supplementary Data 8

**Description:** Calculation of forensic parameters per cluster and number of cells.

File name: Supplementary Data 9

**Description:** Determination of Y chromosome haplogroup per number of cell per cluster.

File name: Supplementary Data 10

**Description:** Determination of mtDNA haplogroup per cluster and number of cells.