

## 3I Results

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\* Note:

Finger	01	02	03	06	07	08	01+06	02+07	03+08
Description	Right Thumb	Right Index	Right Middle	Left Thumb	Left Index	Left Middle	Right and Left Thumb	Right and Left Index	Right and Left Middle

\*\* FMRs@FNMR={.0002 and 0.0005} are not available (NA).

### 3I 1K Sample Template Size Distribution

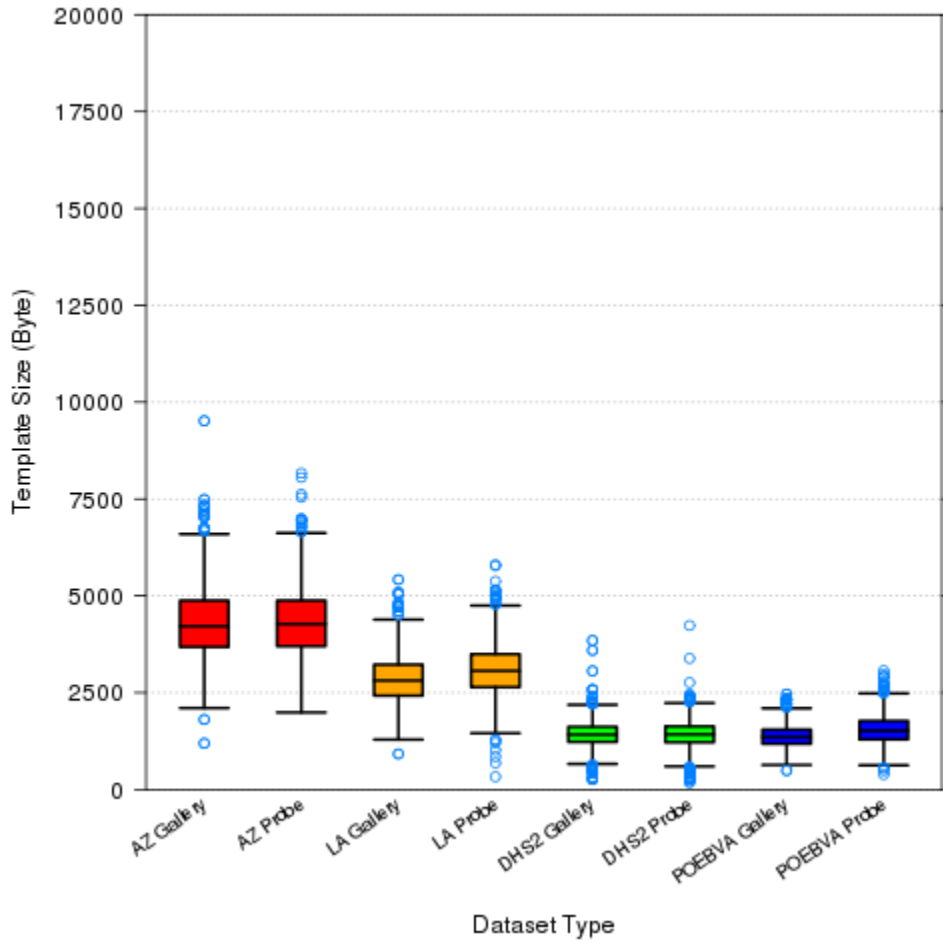


Figure 3I-1

Dataset	AZ	AZ	LA	LA	DHS2	DHS2	POEBVA	POEBVA
Type	Gallery	Probe	Gallery	Probe	Gallery	Probe	Gallery	Probe
Width x Height (pixels)	800x800	800x800	412x1000	400x776	368x368	368x368	500x500	368x368
Maximum	9517	8167	5418	5802	3845	4234	2464	3068
75%	4877	4878	3225	3494	1620	1631	1547	1772
Median	4214	4272	2812	3064	1417	1423	1355	1519
25%	3680	3698	2423	2644	1227	1217	1179	1293
Minimum	1193	1989	919	330	259	179	491	387

Table 3I-1

### 3I 1K sample Enrollment and Comparison time

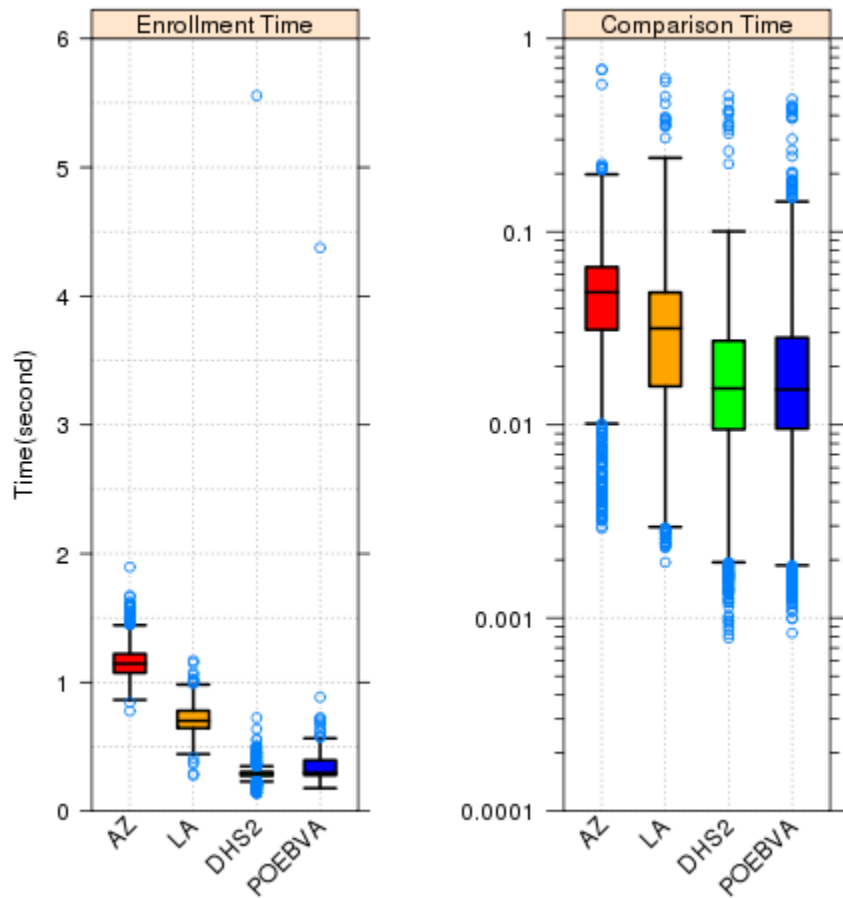


Figure 3I-2

**Enrollment Time (second)**

**Comparison Time (second)**

Dataset	AZ	LA	DHS2	POEBVA
Maximum	15.5148	12.5234	11.0191	11.4432
75%	1.2219	0.7800	0.3048	0.3955
Median	1.1449	0.7014	0.2903	0.2981
25%	1.0736	0.6444	0.2746	0.2792
Minimum	0.7771	0.2773	0.1376	0.1784

Dataset	AZ	LA	DHS2	POEBVA
Maximum	0.6928	0.6230	0.5057	0.4853
75%	0.0656	0.0484	0.0272	0.0283
Median	0.0486	0.0316	0.0154	0.0152
25%	0.0311	0.0158	0.0095	0.0095
Minimum	0.0029	0.0019	0.0008	0.0008

**Table 3I-2 1K Sample Enrollment and Comparison Time**

### 3I- DET for ALL Datasets (P2P)

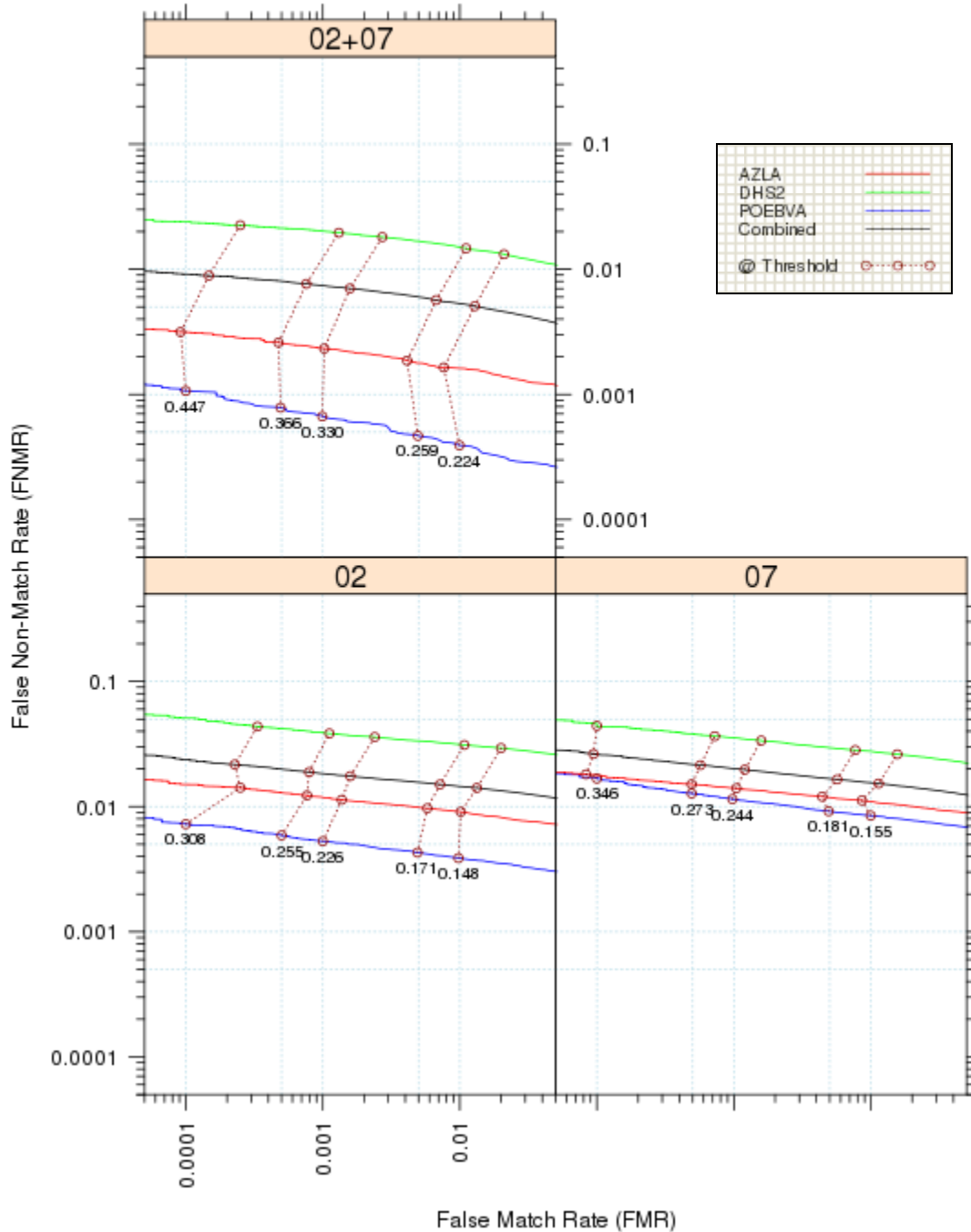
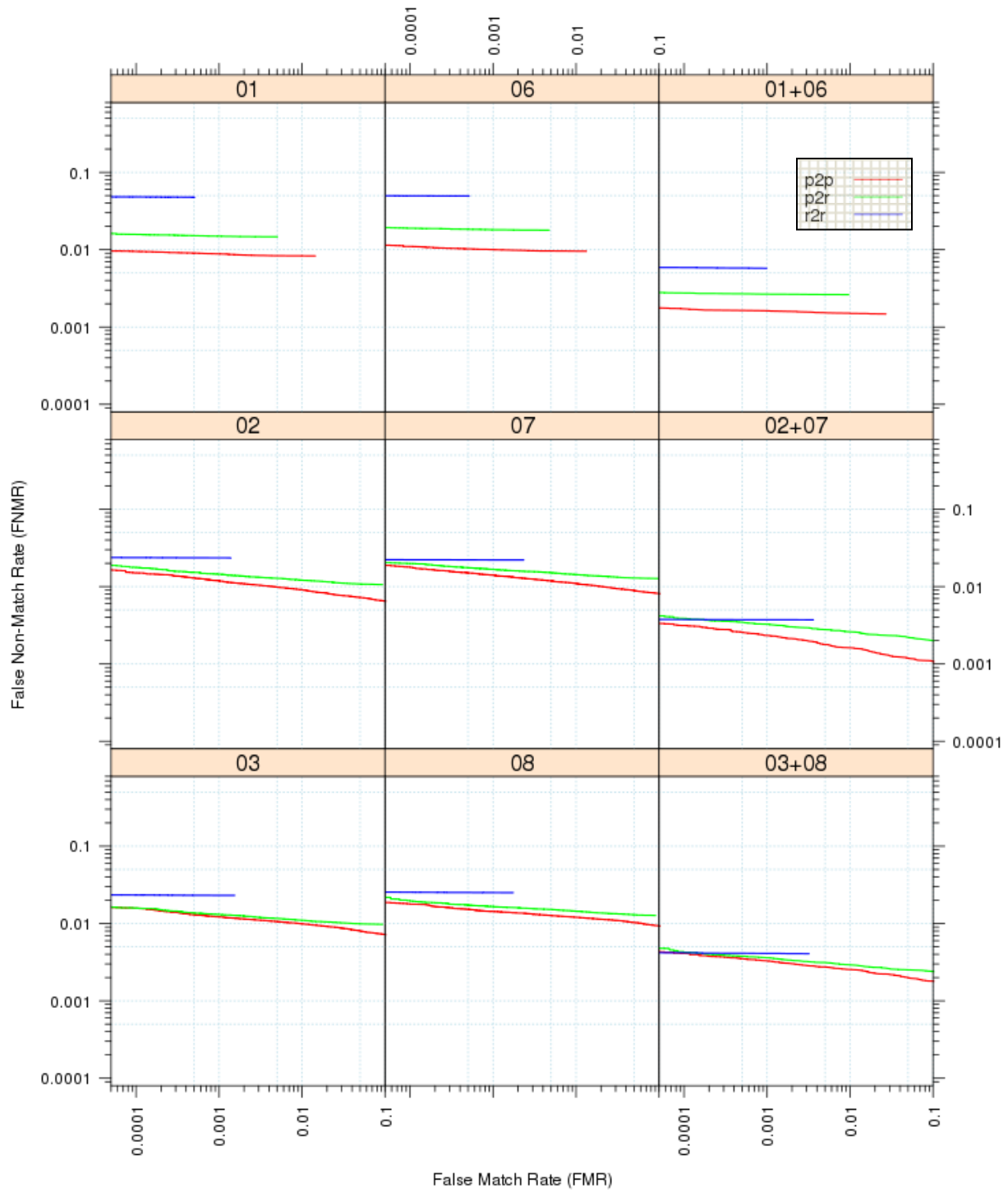


Figure 3I-3

### 3I- DET for dataset AZLA



**Figure 3I-4**

Note: p2p - plain vs. plain; p2r - plain vs. rolled; r2r – rolled vs. rolled.

### 3I EER and FTE

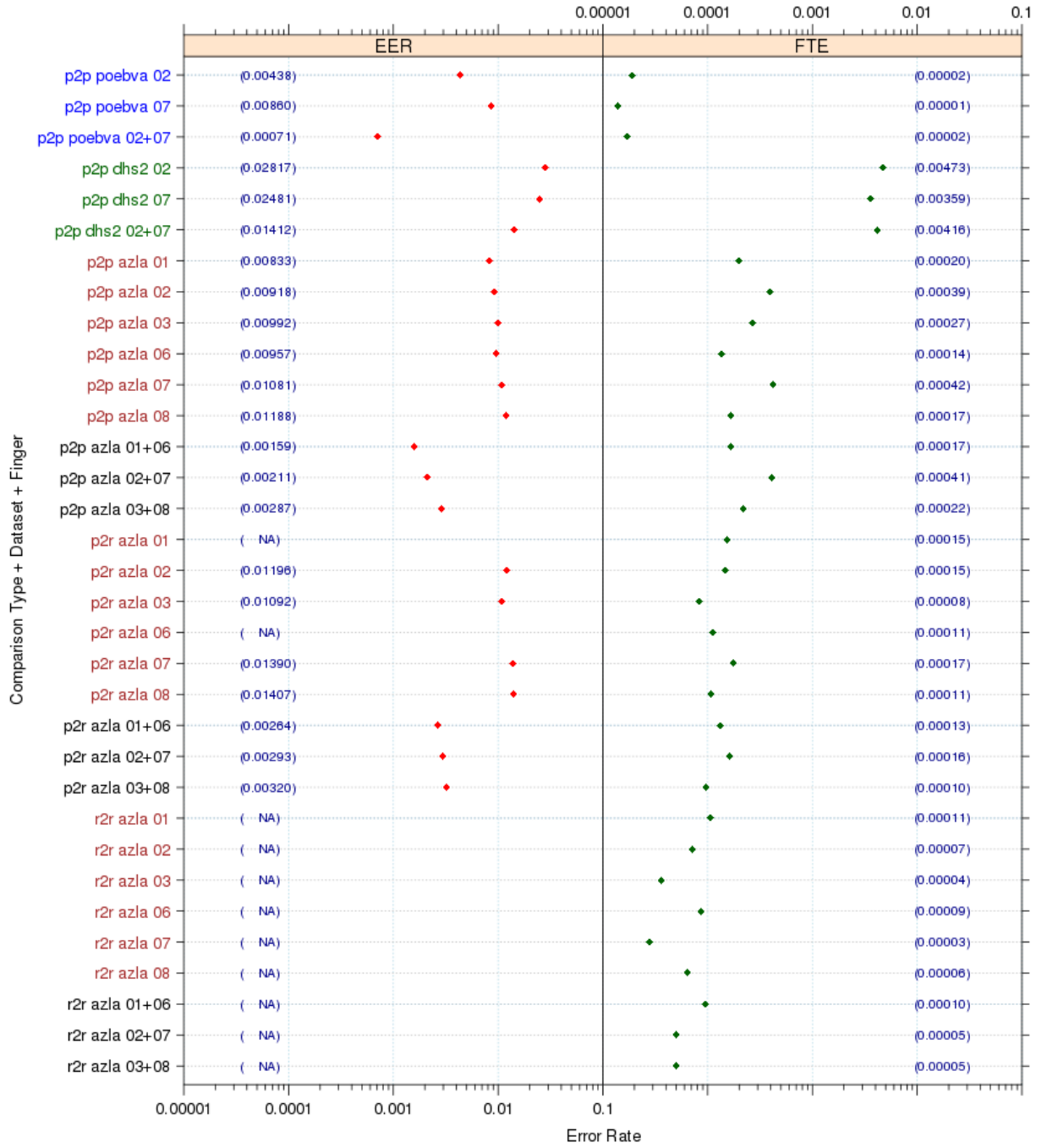
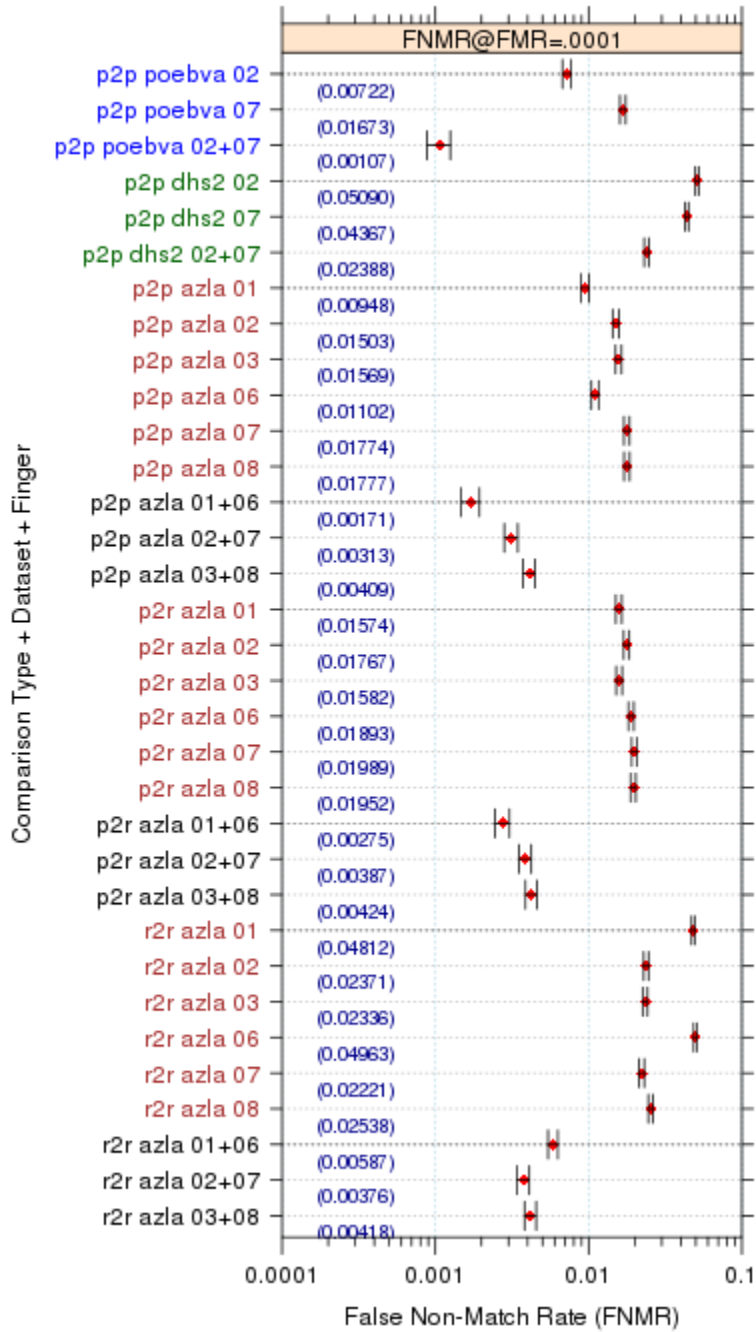


Figure 3I-5

Note: NA – The number couldn't be reliably measured with the current sample size of 120,000.

**3I - FNMRs @ FMR = .0001 and 95% Confidence Intervals**



**Figure 3I-5**

**3I - EER and FTE table**

Comparison Type	Dataset	Finger Position	EER	FTE Rate	FTE count
p2p	poebva	02	0.0044	0.00002	7
p2p	poebva	07	0.0086	0.00001	5
p2p	poebva	02+07	0.0007	0.00002	12
p2p	dhs2	02	0.0282	0.00473	1702
p2p	dhs2	07	0.0248	0.00359	1294
p2p	dhs2	02+07	0.0141	0.00416	2996
p2p	azla	01	0.0083	0.00020	71
p2p	azla	02	0.0092	0.00039	141
p2p	azla	03	0.0099	0.00027	96
p2p	azla	06	0.0096	0.00014	49
p2p	azla	07	0.0108	0.00042	152
p2p	azla	08	0.0119	0.00017	60
p2p	azla	01+06	0.0016	0.00017	120
p2p	azla	02+07	0.0021	0.00041	293
p2p	azla	03+08	0.0029	0.00022	156
p2r	azla	01	NA	0.00015	55
p2r	azla	02	0.0120	0.00015	53
p2r	azla	03	0.0109	0.00008	30
p2r	azla	06	NA	0.00011	40
p2r	azla	07	0.0139	0.00018	63
p2r	azla	08	0.0141	0.00011	39
p2r	azla	01+06	0.0026	0.00013	95
p2r	azla	02+07	0.0029	0.00016	116
p2r	azla	03+08	0.0032	0.00010	69
r2r	azla	01	NA	0.00011	38
r2r	azla	02	NA	0.00007	26
r2r	azla	03	NA	0.00004	13
r2r	azla	06	NA	0.00009	31
r2r	azla	07	NA	0.00003	10
r2r	azla	08	NA	0.00006	23
r2r	azla	01+06	NA	0.00010	69
r2r	azla	02+07	NA	0.00005	36
r2r	azla	03+08	NA	0.00005	36

**Table 3I-3**

Note: NA – The number couldn't be reliably measured with the current sample size of 120,000.



### 3I- FNMR @ FMR=0.0001, FMRs @ FNMR = (.002, 0.005) and 95% Confidence Intervals

Matching Type	Dataset	Finger position	FNMR@ FMR= 0.0001	95% Confidence Interval of FNMR	FMR1 @ FNMR= 0.002	FMR2 @ FNMR= 0.005
p2p	poebva	02	0.0072	±0.00048	NA	NA
p2p	poebva	07	0.0167	±0.00073	NA	NA
p2p	poebva	02+07	0.0011	±0.00019	NA	NA
p2p	dhs2	02	0.0509	±0.00124	NA	NA
p2p	dhs2	07	0.0437	±0.00116	NA	NA
p2p	dhs2	02+07	0.0239	±0.00086	NA	NA
p2p	azla	01	0.0095	±0.00055	NA	NA
p2p	azla	02	0.0150	±0.00069	NA	NA
p2p	azla	03	0.0157	±0.00070	NA	NA
p2p	azla	06	0.0110	±0.00059	NA	NA
p2p	azla	07	0.0177	±0.00075	NA	NA
p2p	azla	08	0.0178	±0.00075	NA	NA
p2p	azla	01+06	0.0017	±0.00023	NA	NA
p2p	azla	02+07	0.0031	±0.00032	NA	NA
p2p	azla	03+08	0.0041	±0.00036	NA	NA
p2r	azla	01	0.0157	±0.00070	NA	NA
p2r	azla	02	0.0177	±0.00075	NA	NA
p2r	azla	03	0.0158	±0.00071	NA	NA
p2r	azla	06	0.0189	±0.00077	NA	NA
p2r	azla	07	0.0199	±0.00079	NA	NA
p2r	azla	08	0.0195	±0.00078	NA	NA
p2r	azla	01+06	0.0028	±0.00030	NA	NA
p2r	azla	02+07	0.0039	±0.00035	NA	NA
p2r	azla	03+08	0.0042	±0.00037	NA	NA
r2r	azla	01	0.0481	±0.00121	NA	NA
r2r	azla	02	0.0237	±0.00086	NA	NA
r2r	azla	03	0.0234	±0.00086	NA	NA
r2r	azla	06	0.0496	±0.00123	NA	NA
r2r	azla	07	0.0222	±0.00083	NA	NA
r2r	azla	08	0.0254	±0.00089	NA	NA
r2r	azla	01+06	0.0059	±0.00043	NA	NA
r2r	azla	02+07	0.0038	±0.00035	NA	NA
r2r	azla	03+08	0.0042	±0.00037	NA	NA

**Table 3I-4**

Note: FMR @ FNMR=(0.002,0.005) are not available, see Figure 3I-3, 3I-4.