A: Datasheet

Algorithm: neurotechnology_1

Developer: Neurotechnology

Submission Date: 2018_02_16

Template size: 5214 bytes

Template time (2.5 percentile): 650 msec

Template time (median): 656 msec

Template time (97.5 percentile): 776 msec

Investigation:

Frontal mugshot ranking 193 (out of 259) –– FNIR(1600000, 0, 1) = 0.0441 vs. lowest 0.0009 from sensetime_005

Mugshot profile ranking 156 (out of 190) –– FNIR(1600000, 0, 1) = 0.9660 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 90 (out of 142) –– FNIR(1600000, 0, 1) = 0.0581 vs. lowest 0.0014 from visionlabs_009

Immigration visa–kiosk ranking 87 (out of 139) –– FNIR(1600000, 0, 1) = 0.2787 vs. lowest 0.0694 from cib_000
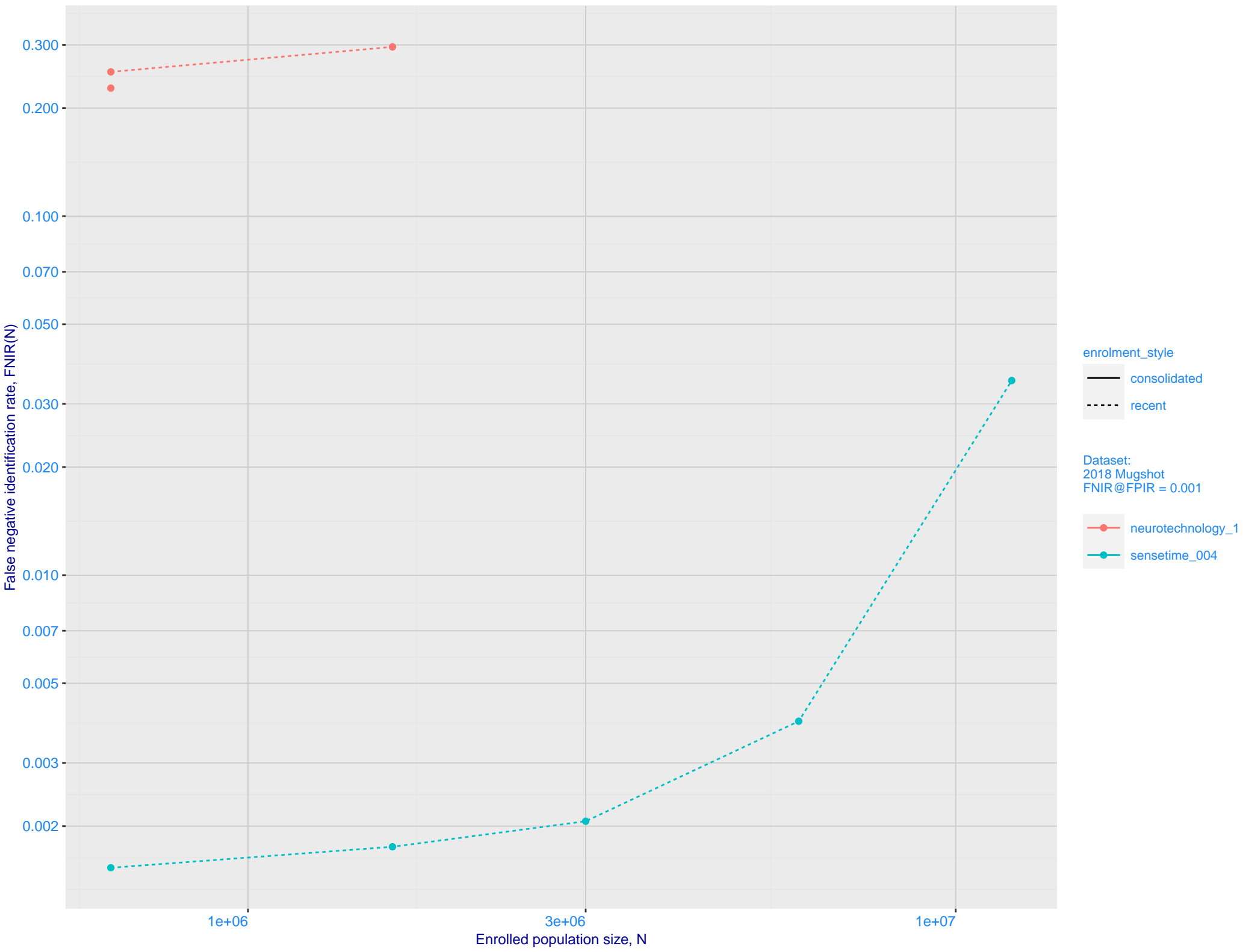
Identification:

Frontal mugshot ranking 188 (out of 259) –– FNIR(1600000, T, L+1) = 0.2961, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
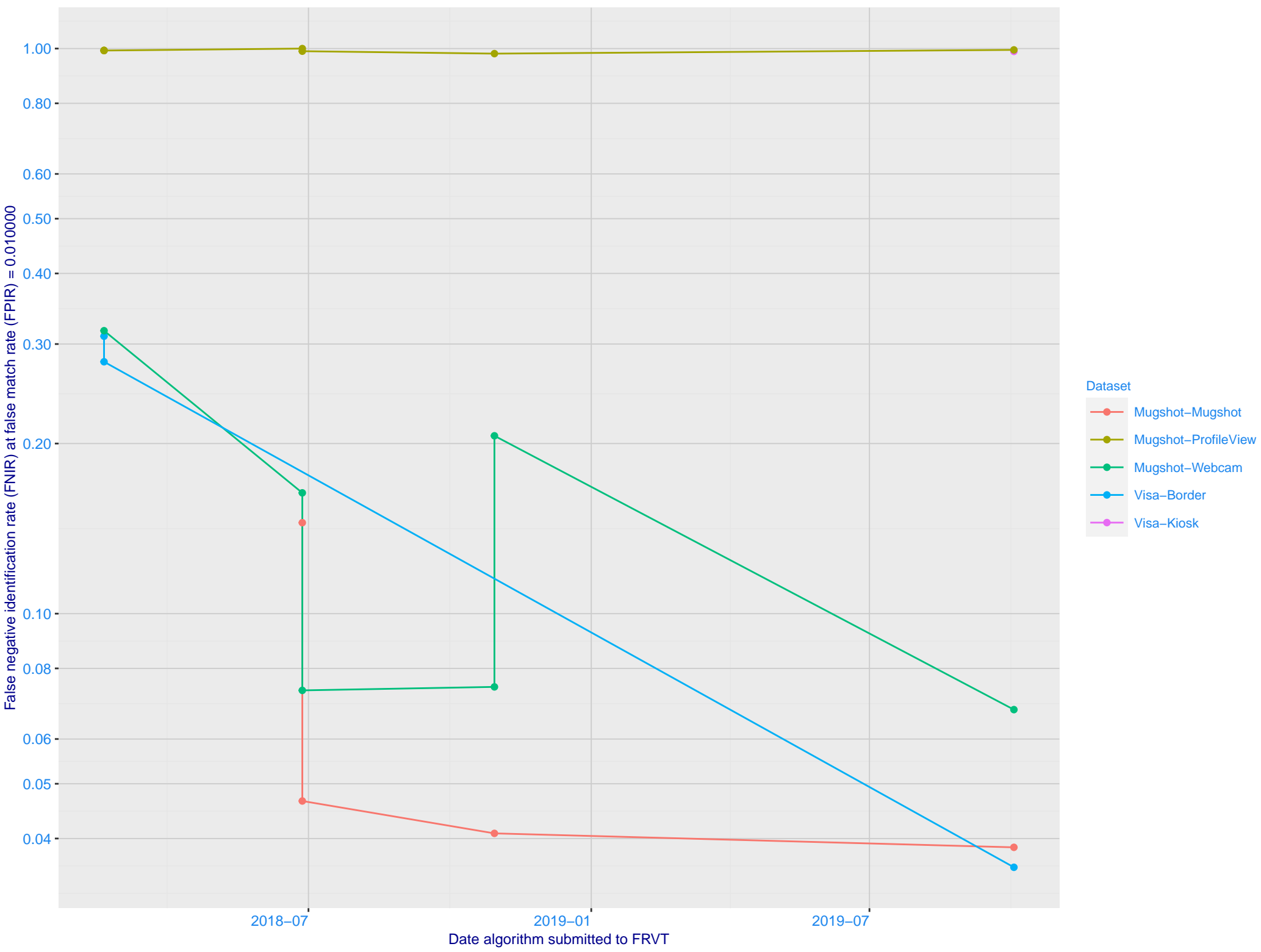
Mugshot profile ranking 109 (out of 189) –– FNIR(1600000, T, L+1) = 0.9977, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005

Immigration visa–border ranking 93 (out of 139) –– FNIR(1600000, T, L+1) = 0.4249, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004
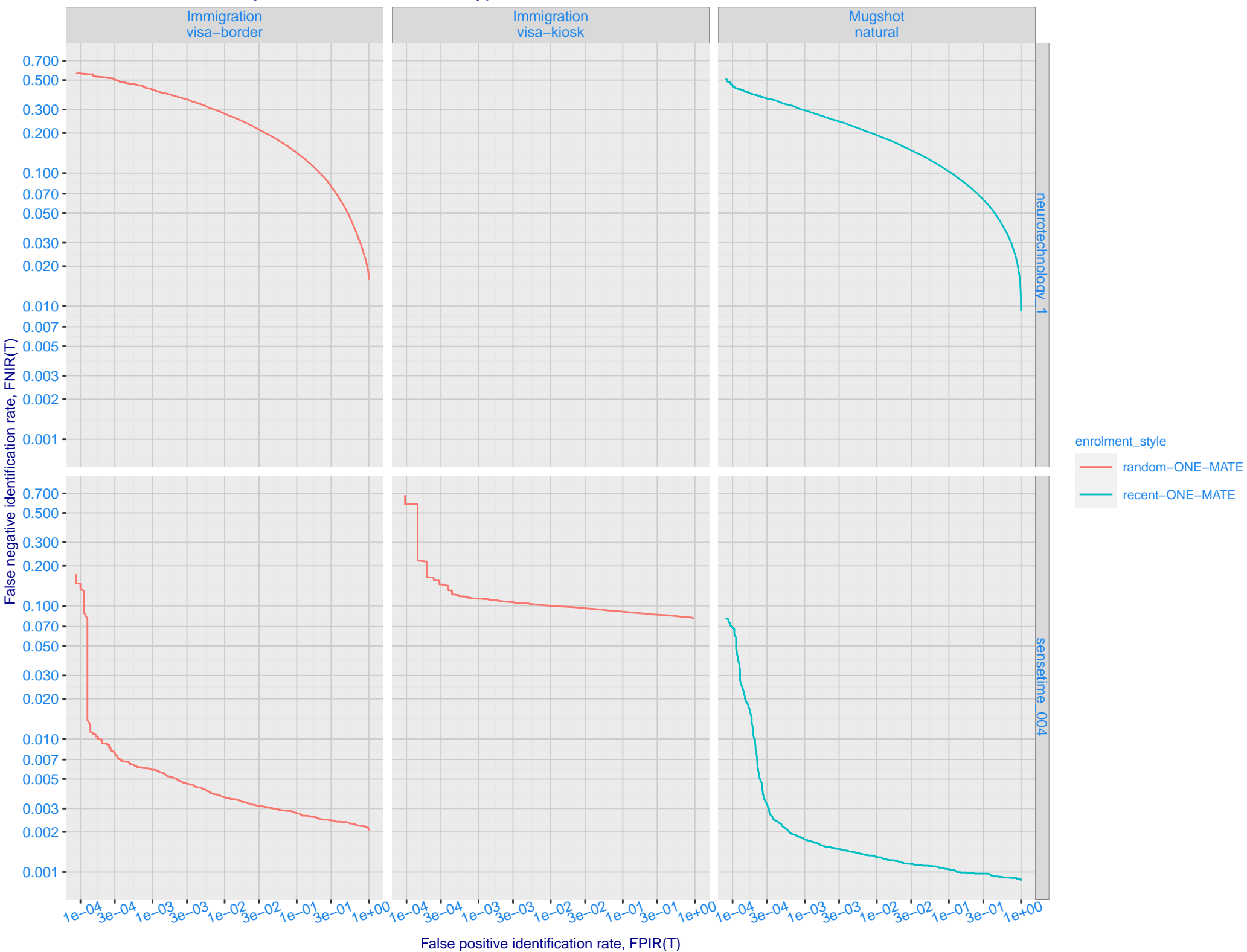
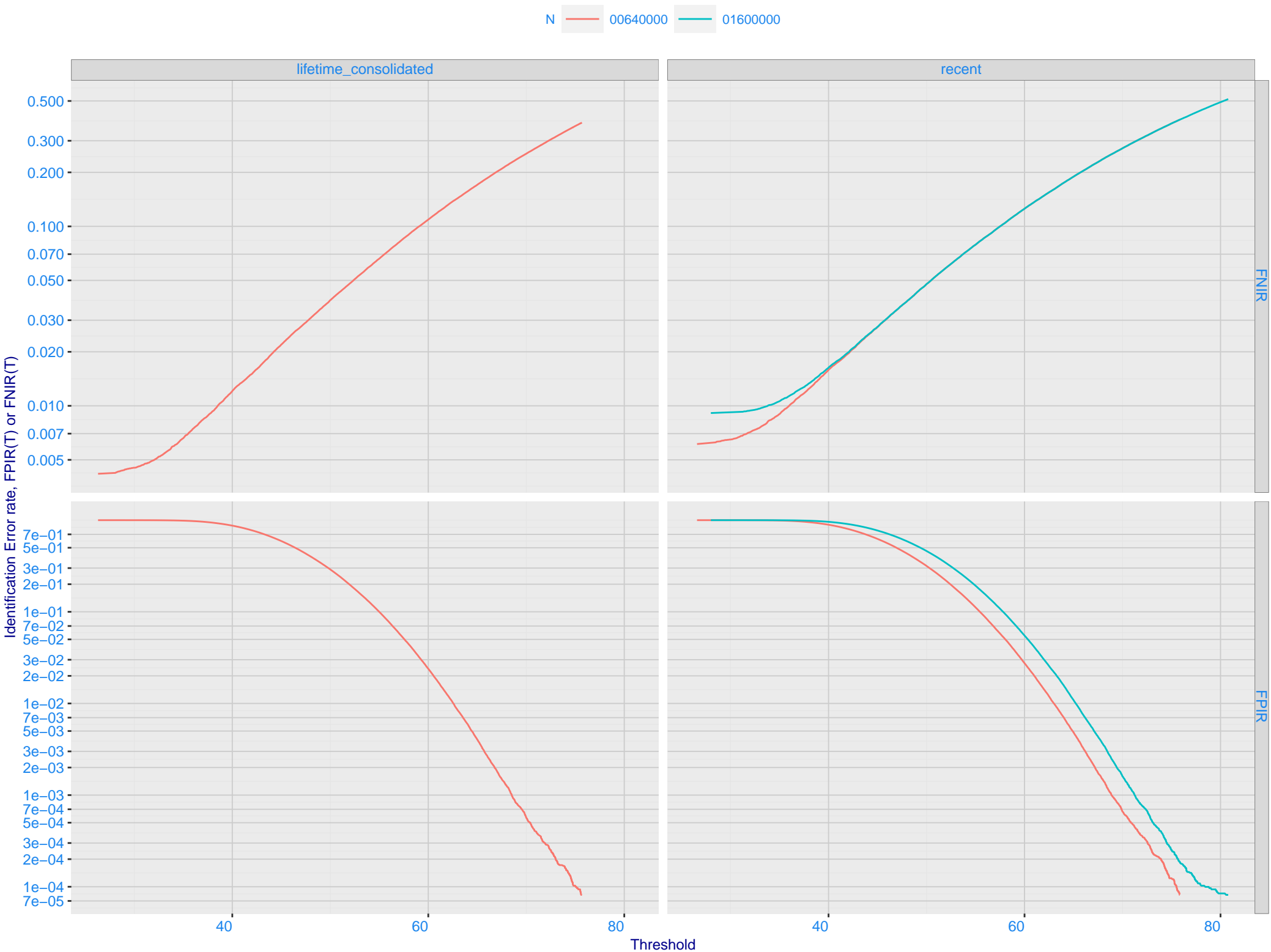B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

C: Evolution of accuracy for NEUROTECHNOLOGY algorithms on three datasets 2018 – present

X-axis: Date algorithm submitted to FRVT

Y-axis: False negative identification rate (FNIR) at false match rate (FPIR) = 0.010000

Legend — Dataset:
- Mugshot–Mugshot
- Mugshot–ProfileView
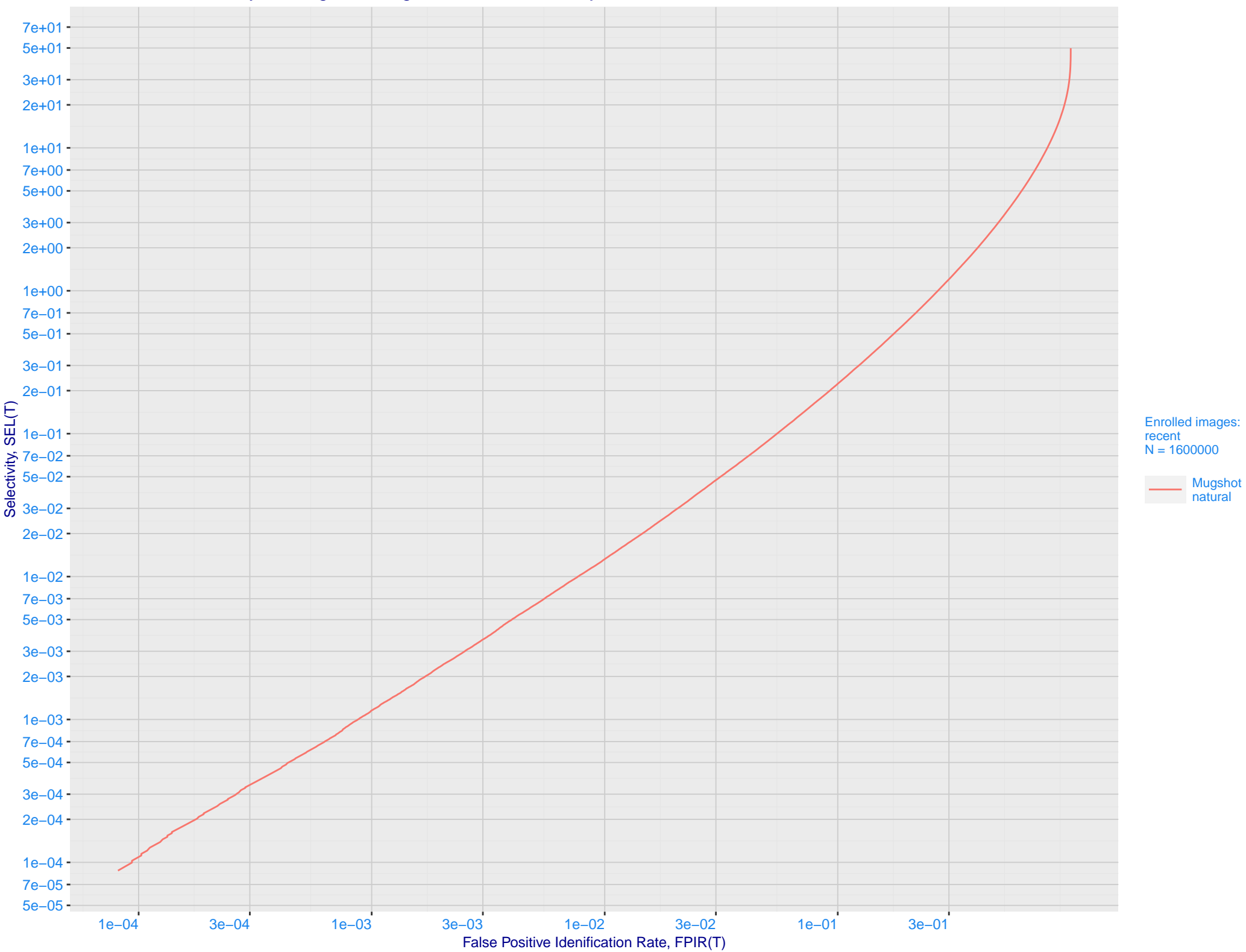- Mugshot–Webcam
- Visa–Border
- Visa–Kiosk

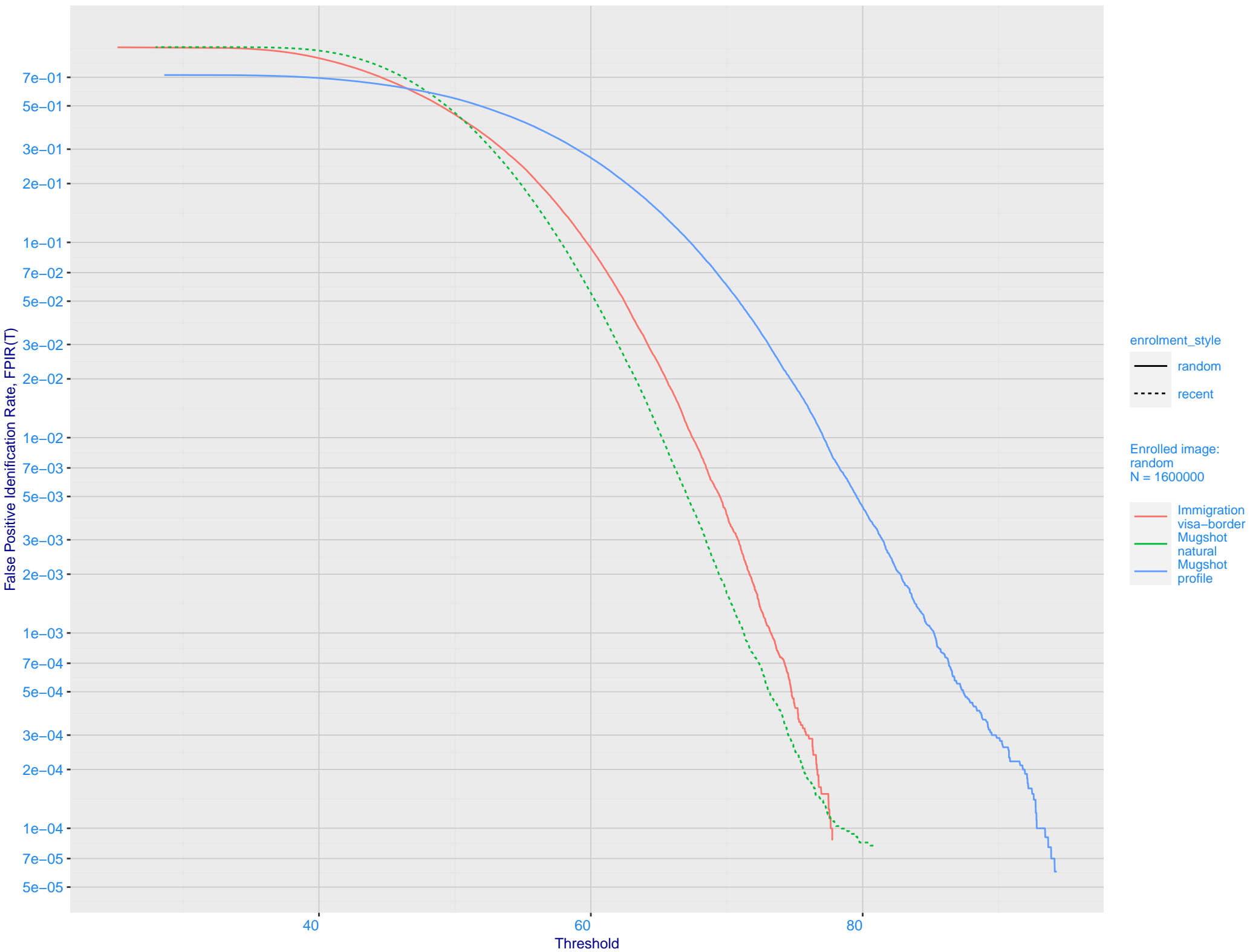D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
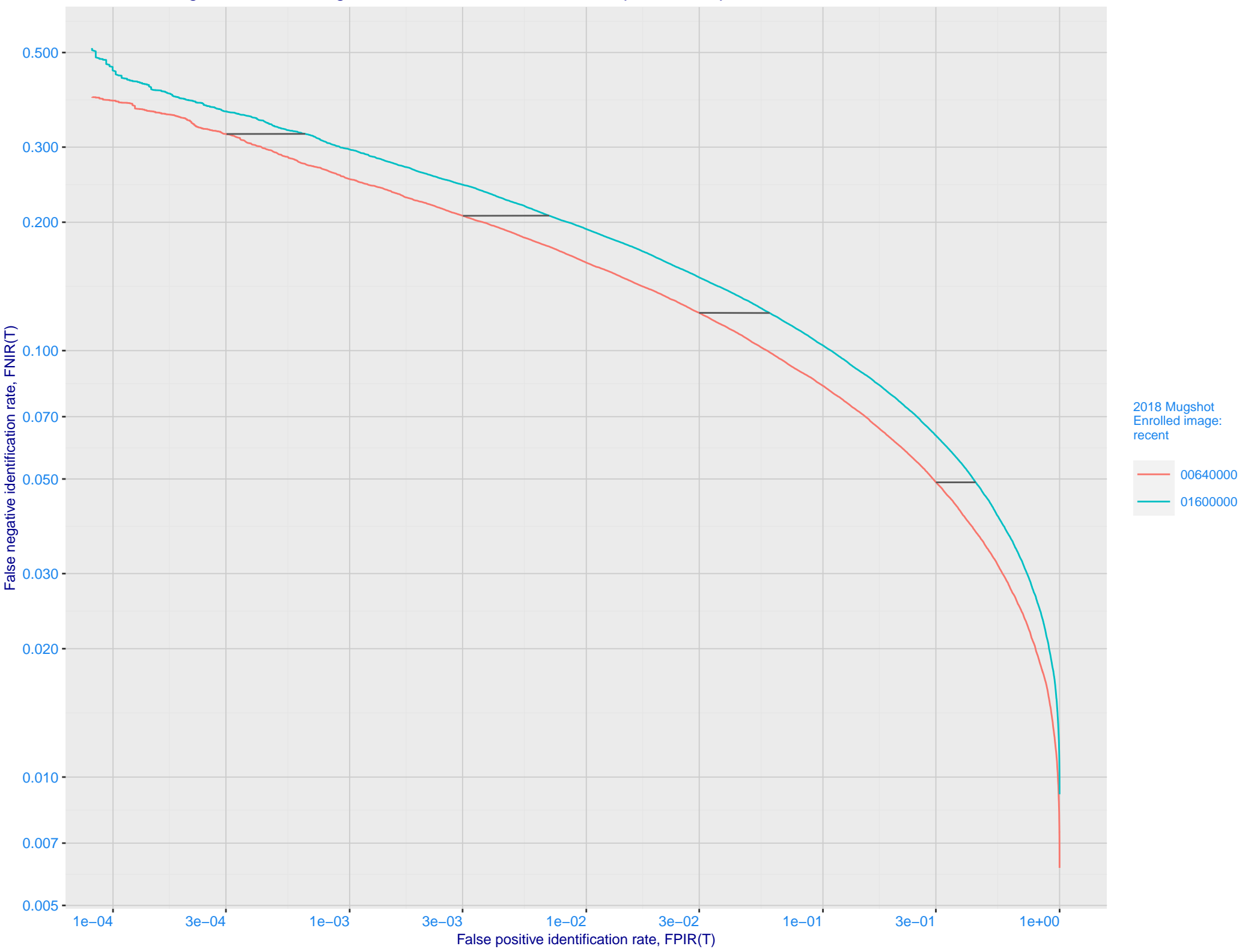
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

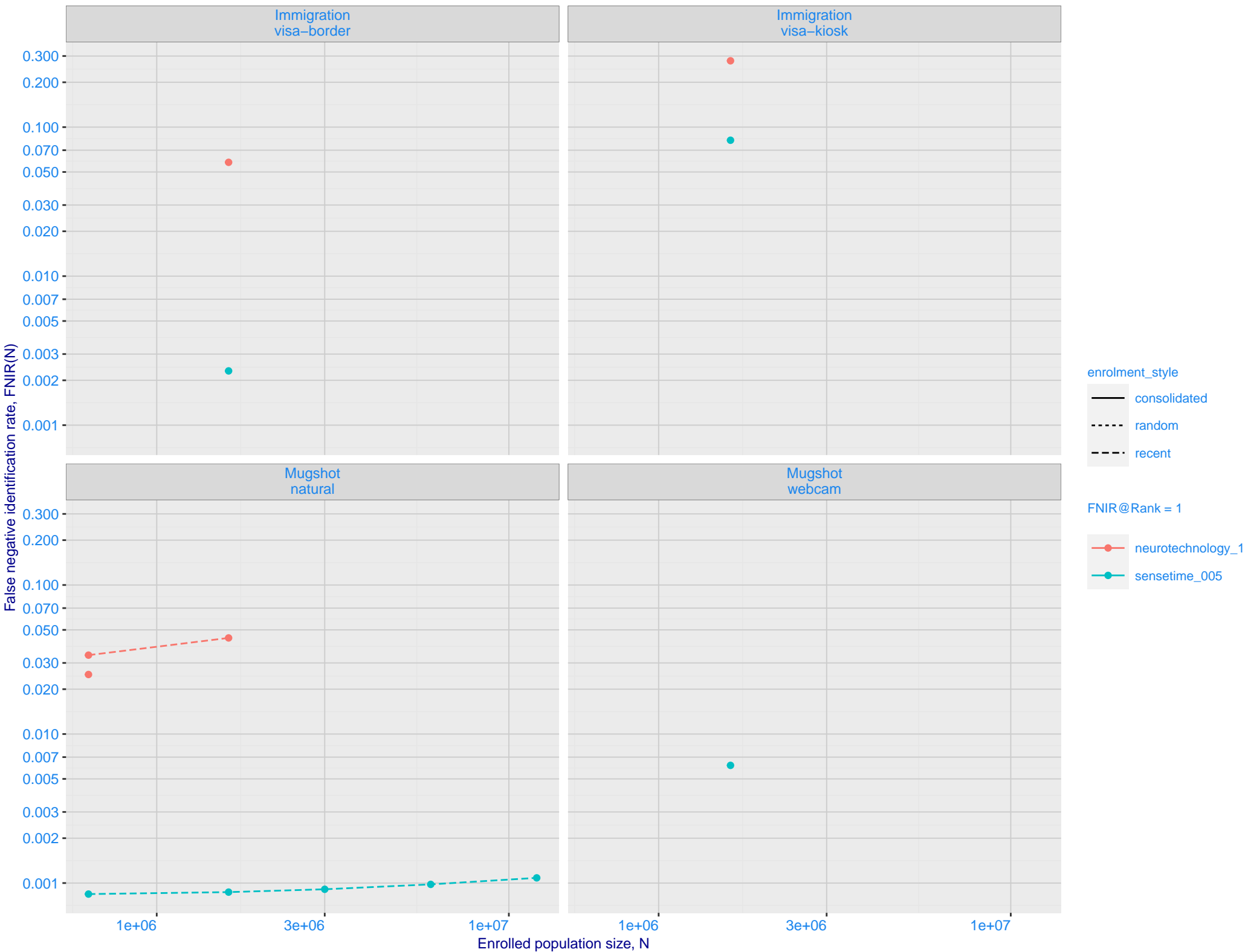G: FPIR dependence on T by probe type for N = 1600000 subjects

H: DET for Mugshot natural images and various N. Links connect points of equal threshold.
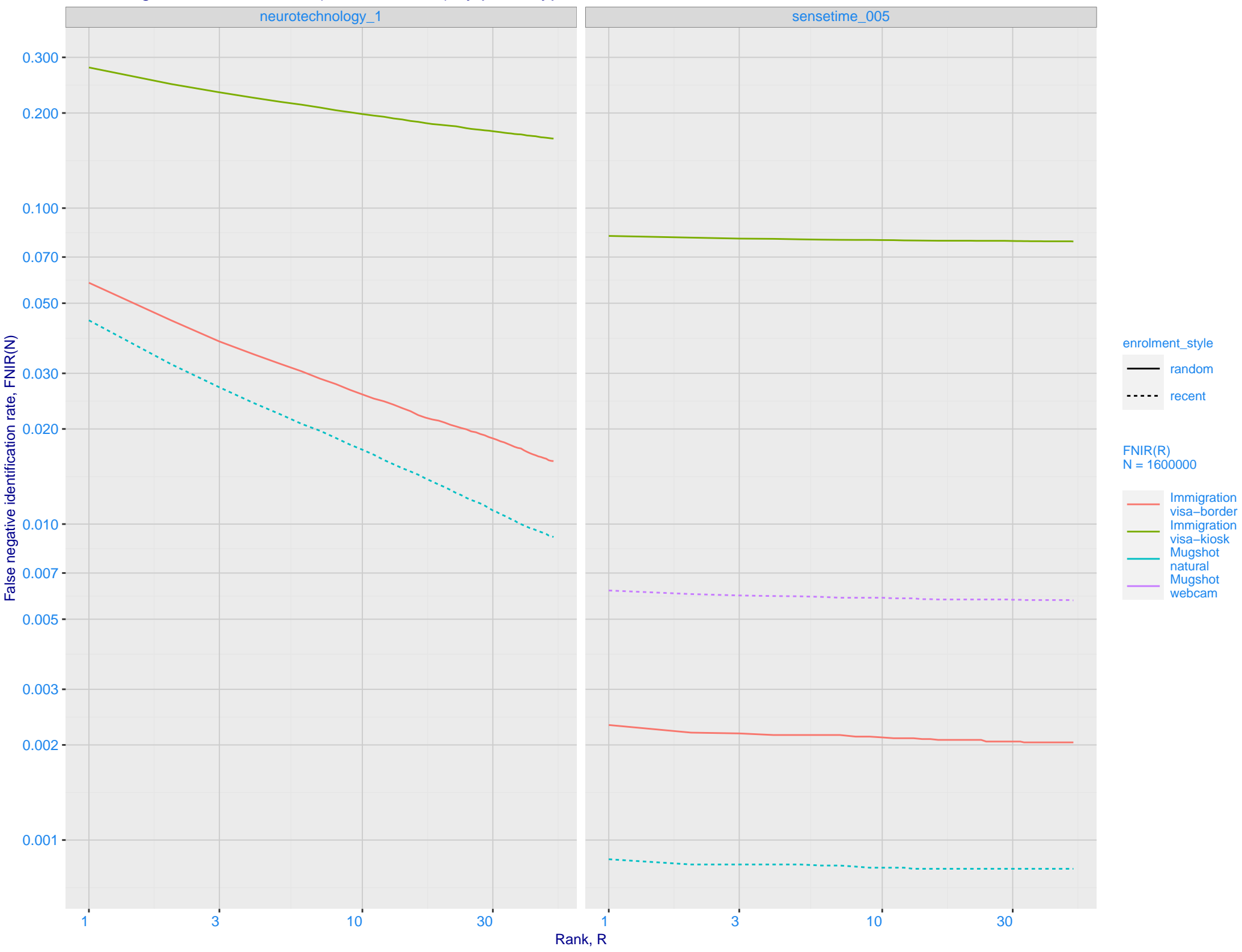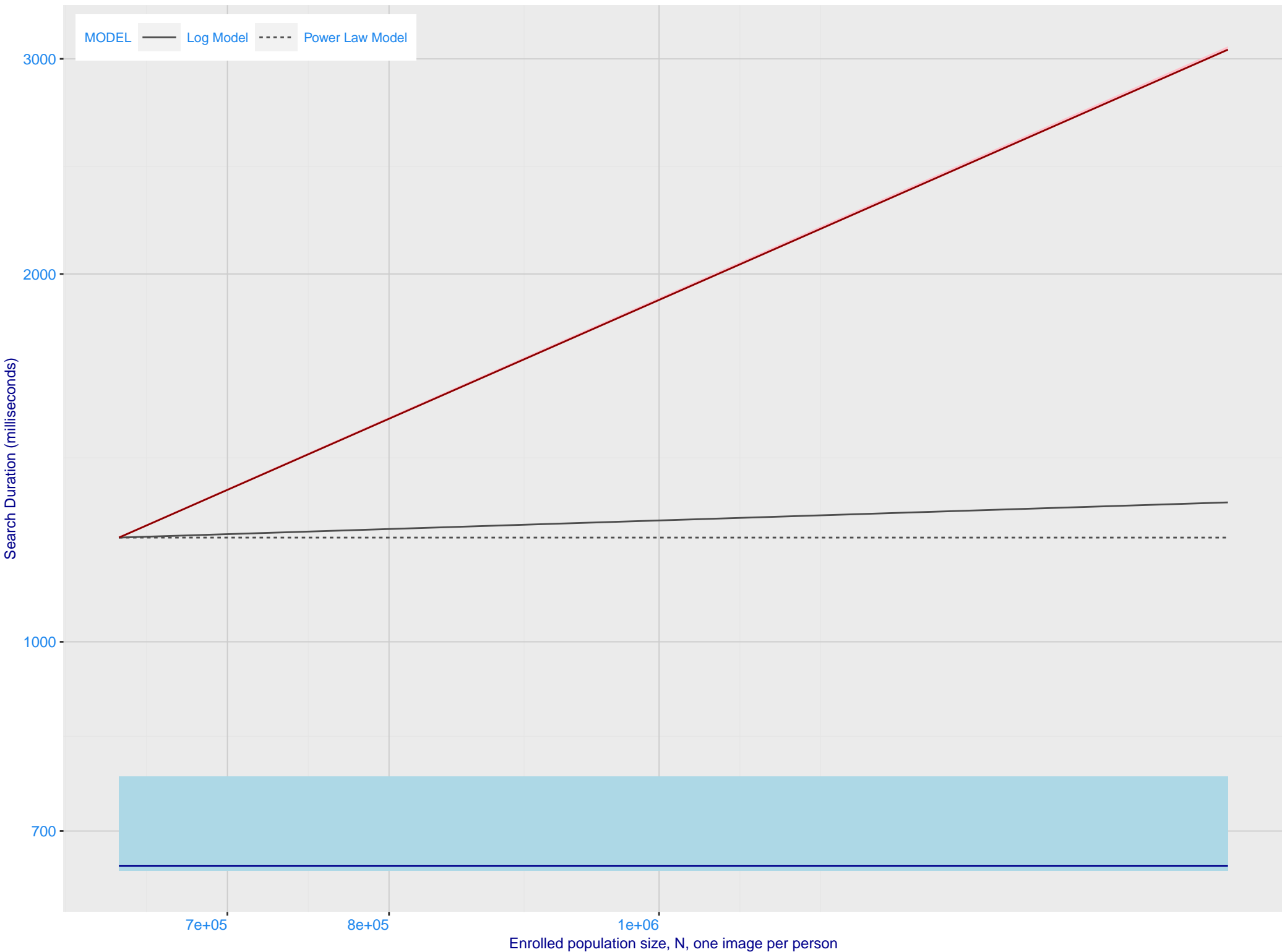
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

J: Investigational mode: FNIR(1600000, R, 0) by probe type

Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power−law models are fit to the first two (N,T) observations

M: Identification FNIR(N, T, L+1) and Investigational FNIR(N, 0, R) under ageing