A: Datasheet

Algorithm: vigilantsolutions_007

Developer: Vigilant Solutions

Submission Date: 2021_01_08

Template size: 1544 bytes

Template time (2.5 percentile): 615 msec

Template time (median): 616 msec

Template time (97.5 percentile): 659 msec

Investigation:

Frontal mugshot ranking 57 (out of 265) –– FNIR(1600000, 0, 1) = 0.0034 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 58 (out of 227) –– FNIR(1600000, 0, 1) = 0.0171 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 119 (out of 196) –– FNIR(1600000, 0, 1) = 0.9253 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 68 (out of 148) –– FNIR(1600000, 0, 1) = 0.0126 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 70 (out of 145) –– FNIR(1600000, 0, 1) = 0.1752 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 52 (out of 265) –– FNIR(1600000, T, L+1) = 0.0282, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
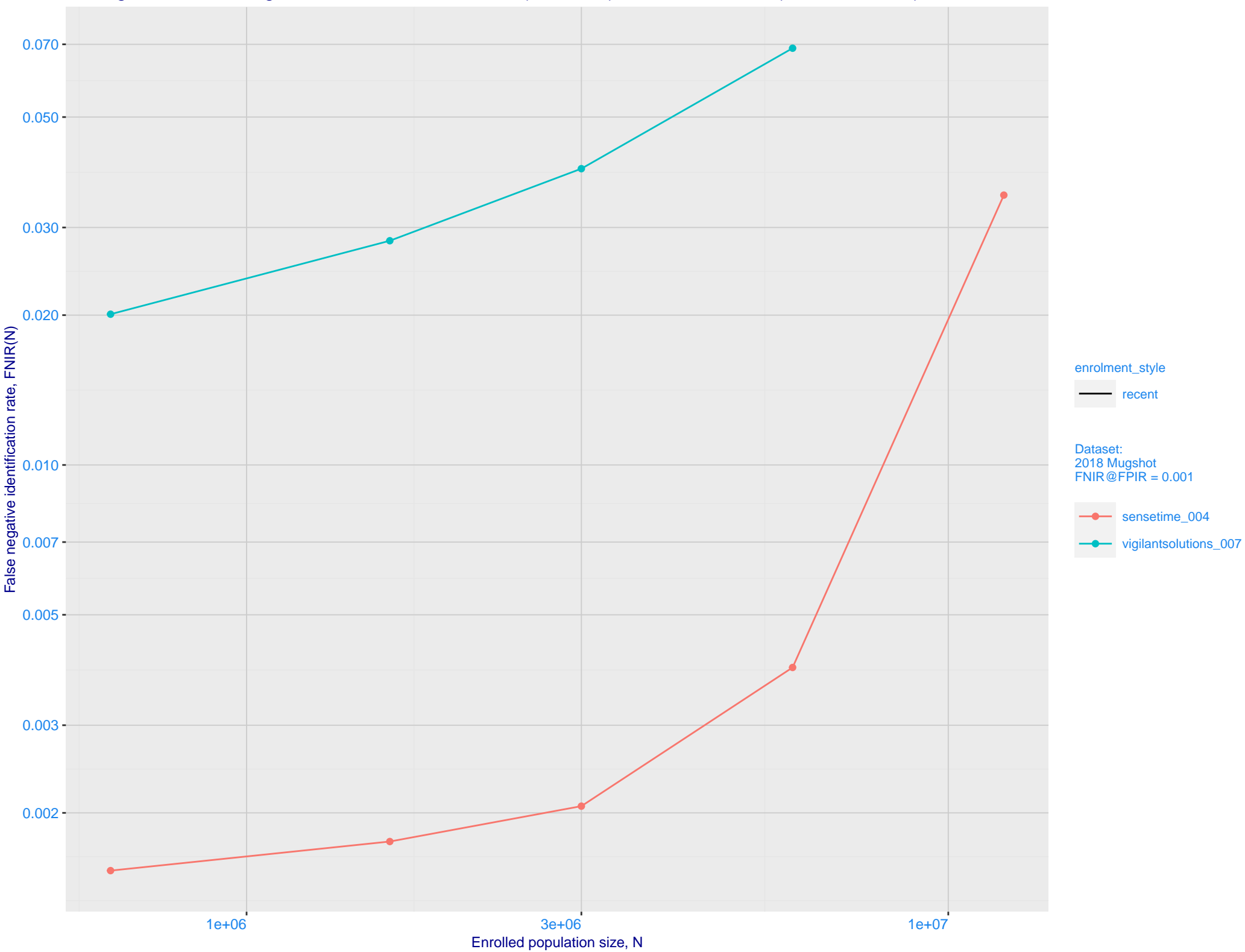
Mugshot webcam ranking 50 (out of 225) –– FNIR(1600000, T, L+1) = 0.0880, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 105 (out of 195) –– FNIR(1600000, T, L+1) = 0.9956, FPIR=0.001000 vs. lowest 0.1331 from hr_000
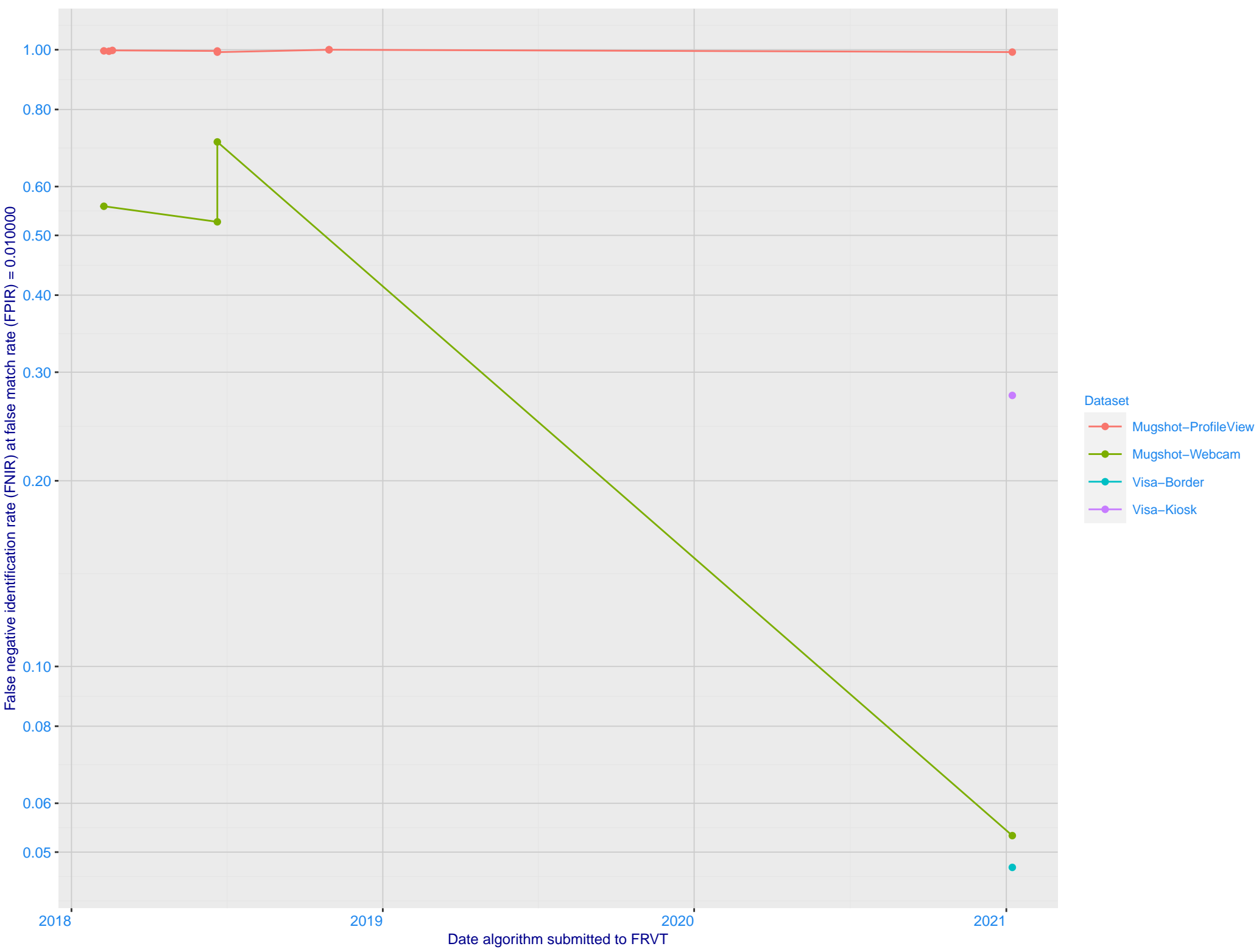
Immigration visa–border ranking 64 (out of 146) –– FNIR(1600000, T, L+1) = 0.0815, FPIR=0.001000 vs. lowest 0.0049 from hr_000

Immigration visa–kiosk ranking 52 (out of 141) –– FNIR(1600000, T, L+1) = 0.3945, FPIR=0.001000 vs. lowest 0.0996 from hr_000
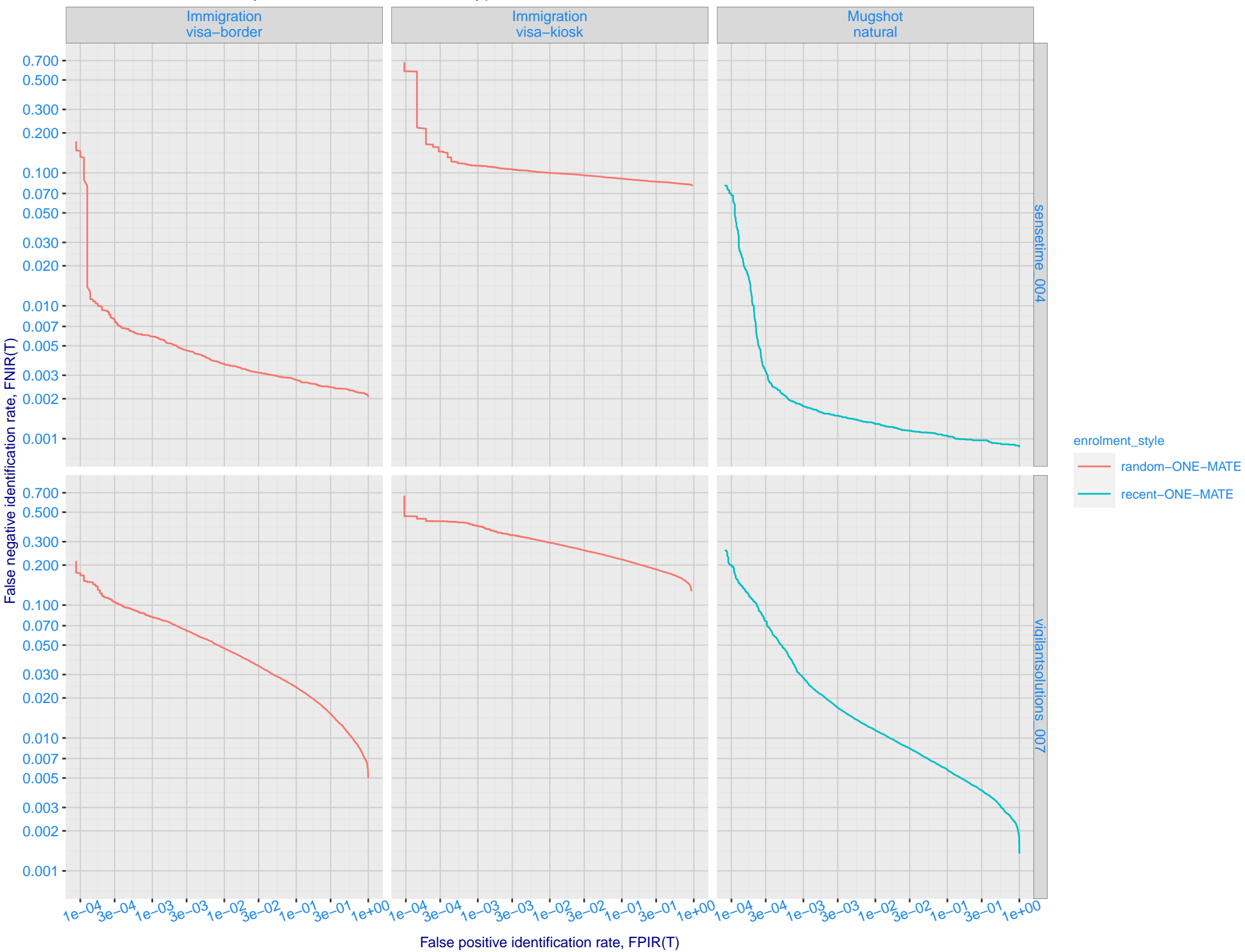
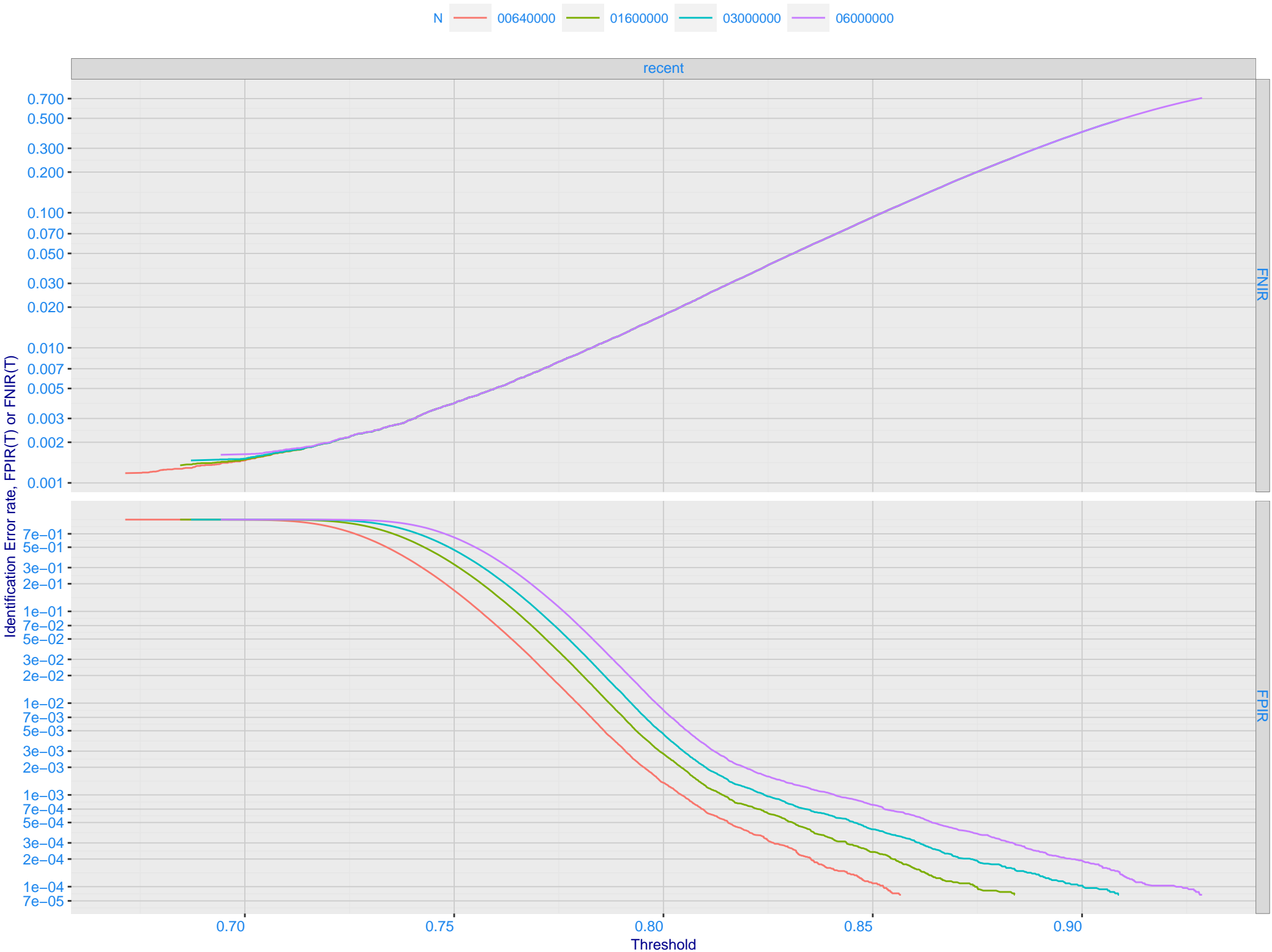B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

C: Evolution of accuracy for VIGILANTSOLUTIONS algorithms on three datasets 2018 – present
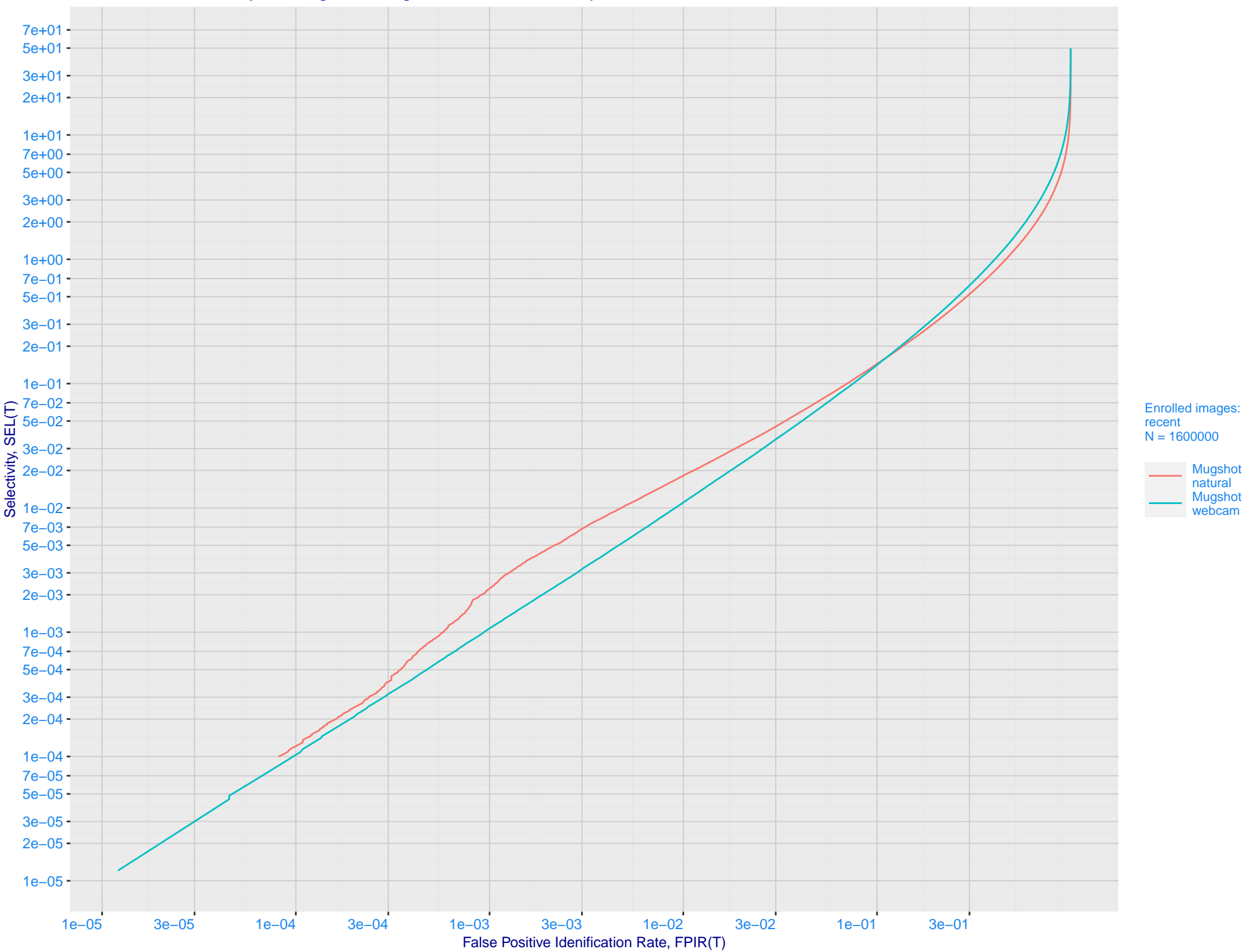
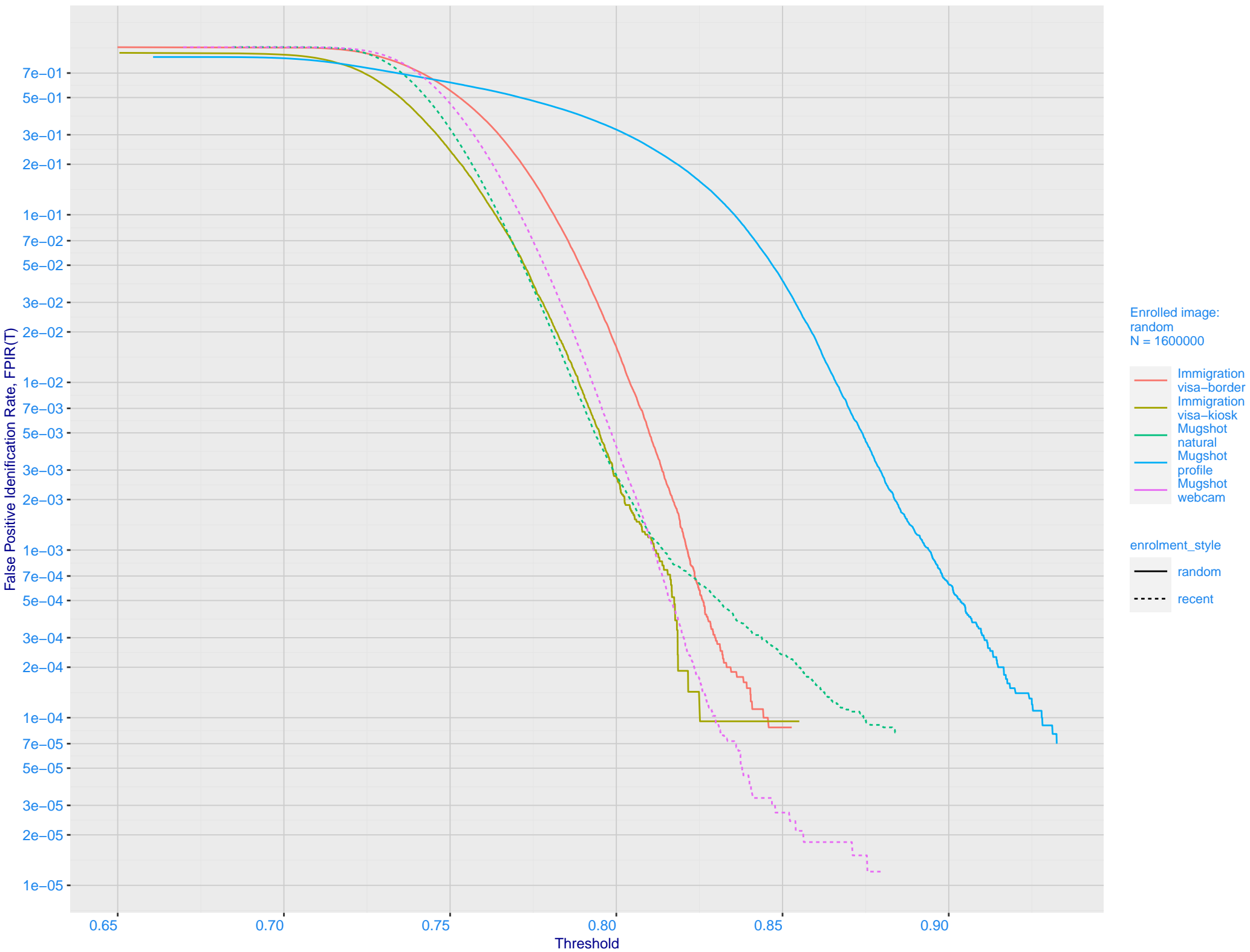D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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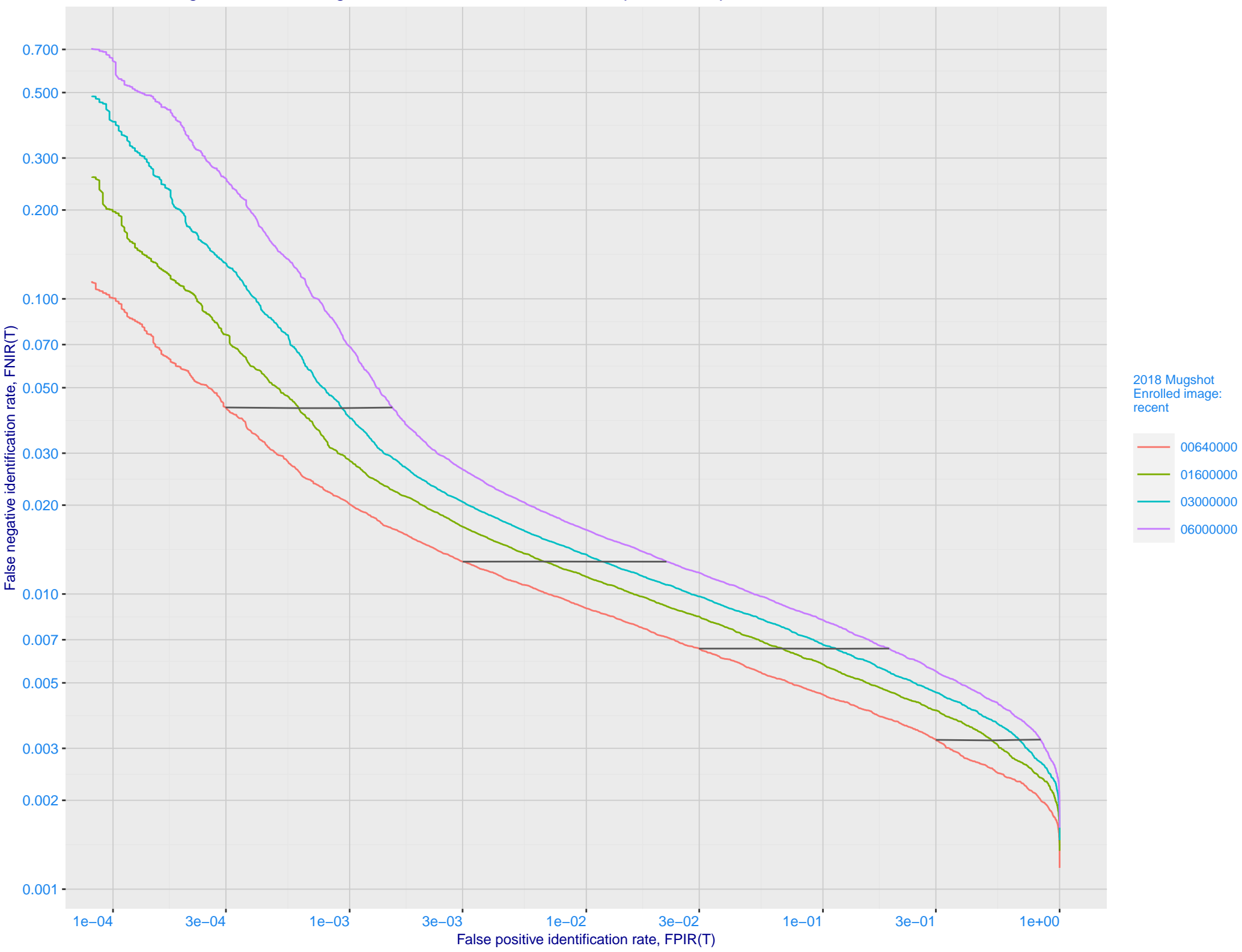
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
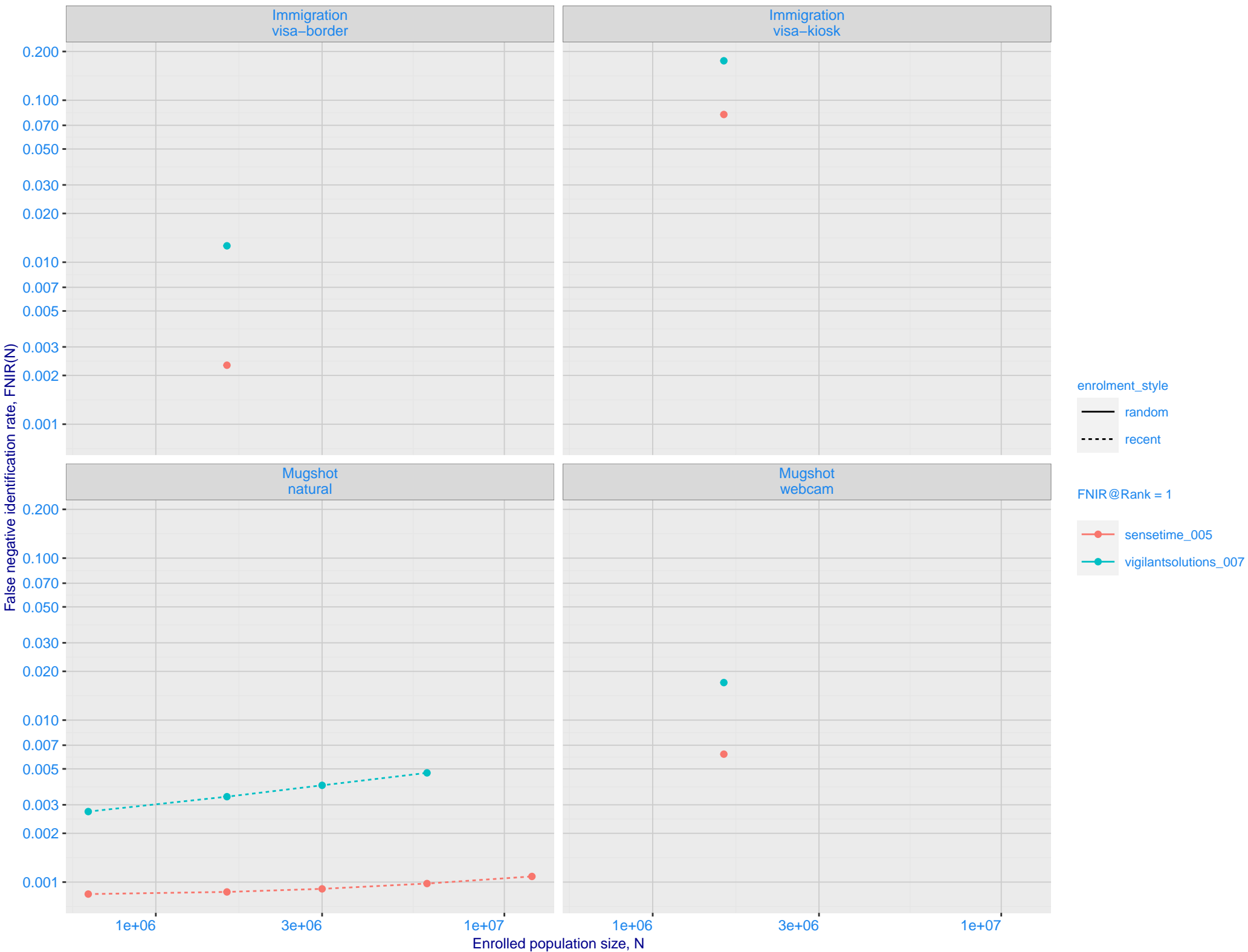
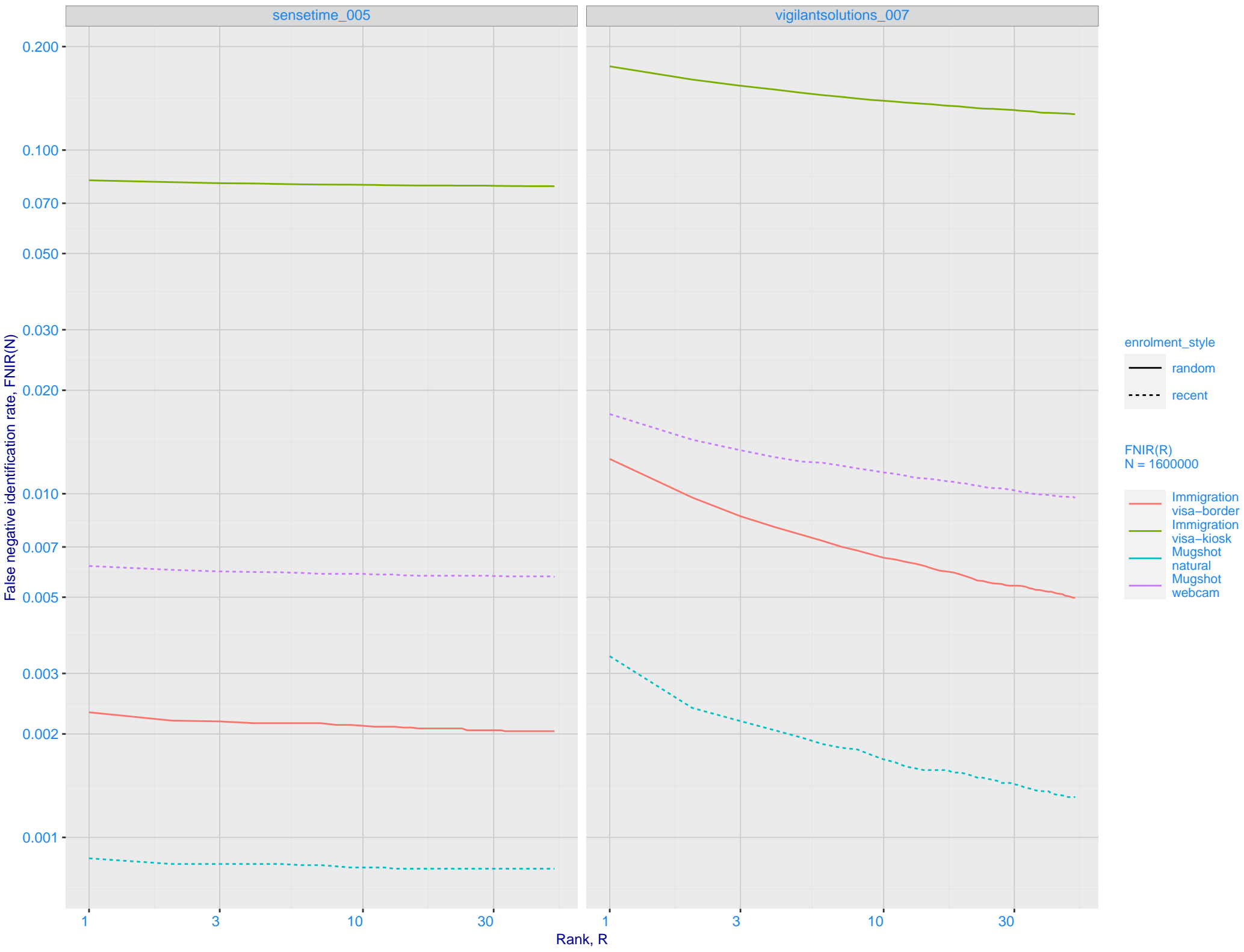G: FPIR dependence on T by probe type for N = 1600000 subjects

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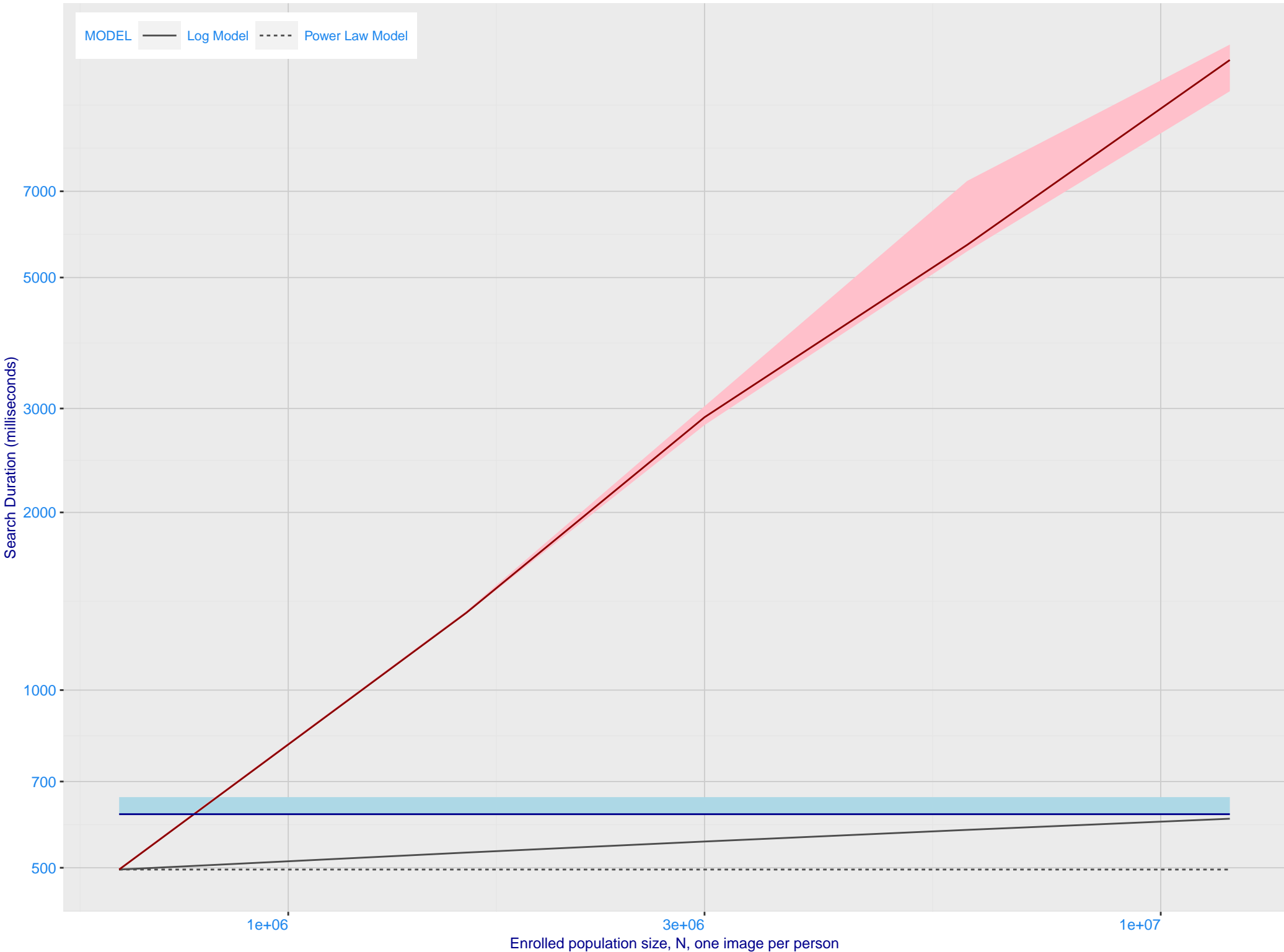
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

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