A: Datasheet

Algorithm: idemia_007

Developer: Idemia

Submission Date: 2020_01_17

Template size: 860 bytes

Template time (2.5 percentile): 783 msec

Template time (median): 794 msec

Template time (97.5 percentile): 866 msec

Investigation:

Frontal mugshot ranking 41 (out of 259) –– FNIR(1600000, 0, 1) = 0.0026 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 41 (out of 221) –– FNIR(1600000, 0, 1) = 0.0151 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 190 (out of 190) –– FNIR(1600000, 0, 1) = 1.0000 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 37 (out of 142) –– FNIR(1600000, 0, 1) = 0.0061 vs. lowest 0.0014 from visionlabs_009

Immigration visa–kiosk ranking 44 (out of 139) –– FNIR(1600000, 0, 1) = 0.1311 vs. lowest 0.0694 from cib_000

Identification:

Frontal mugshot ranking 28 (out of 259) –– FNIR(1600000, T, L+1) = 0.0181, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
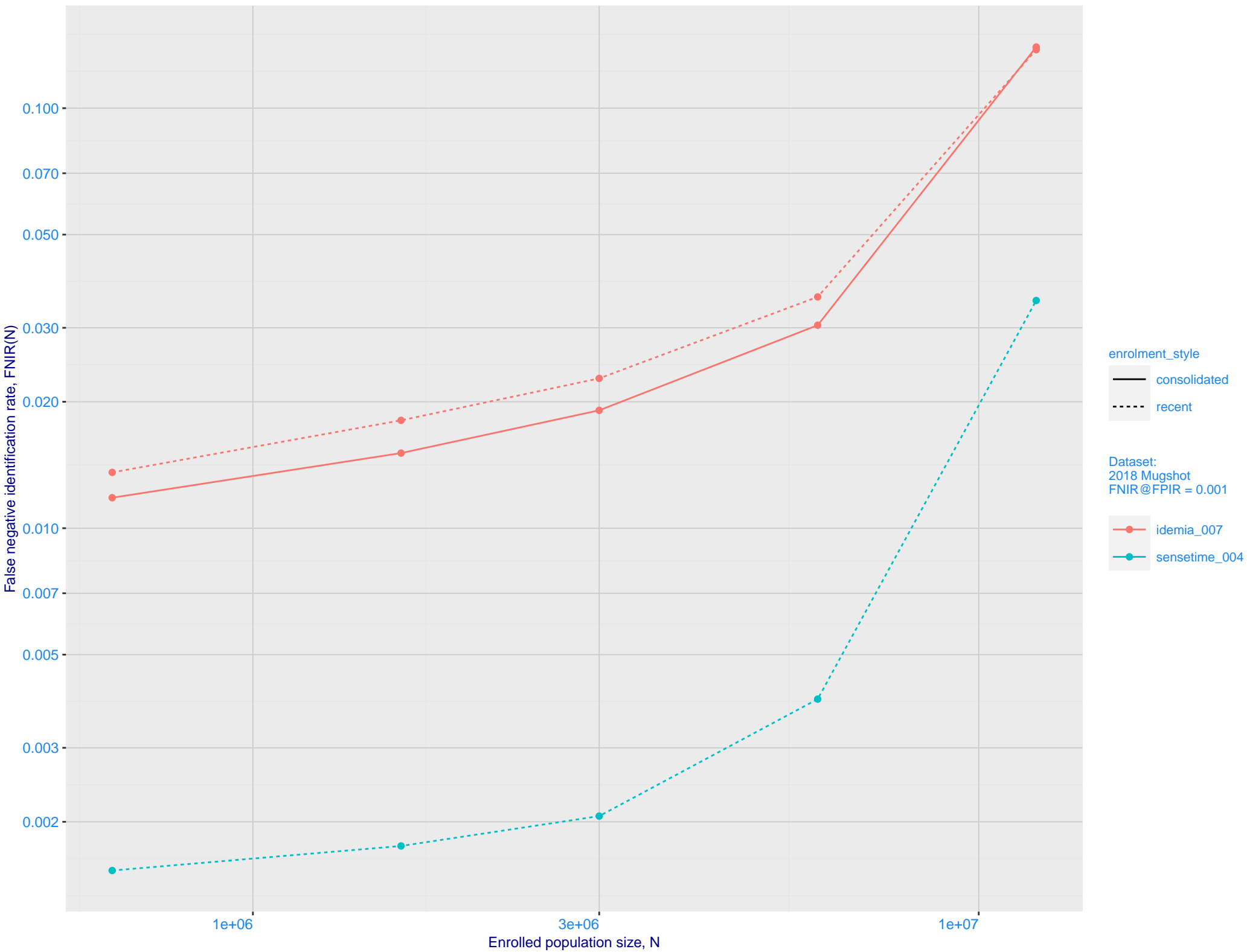
Mugshot webcam ranking 26 (out of 219) –– FNIR(1600000, T, L+1) = 0.0546, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 186 (out of 189) –– FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005
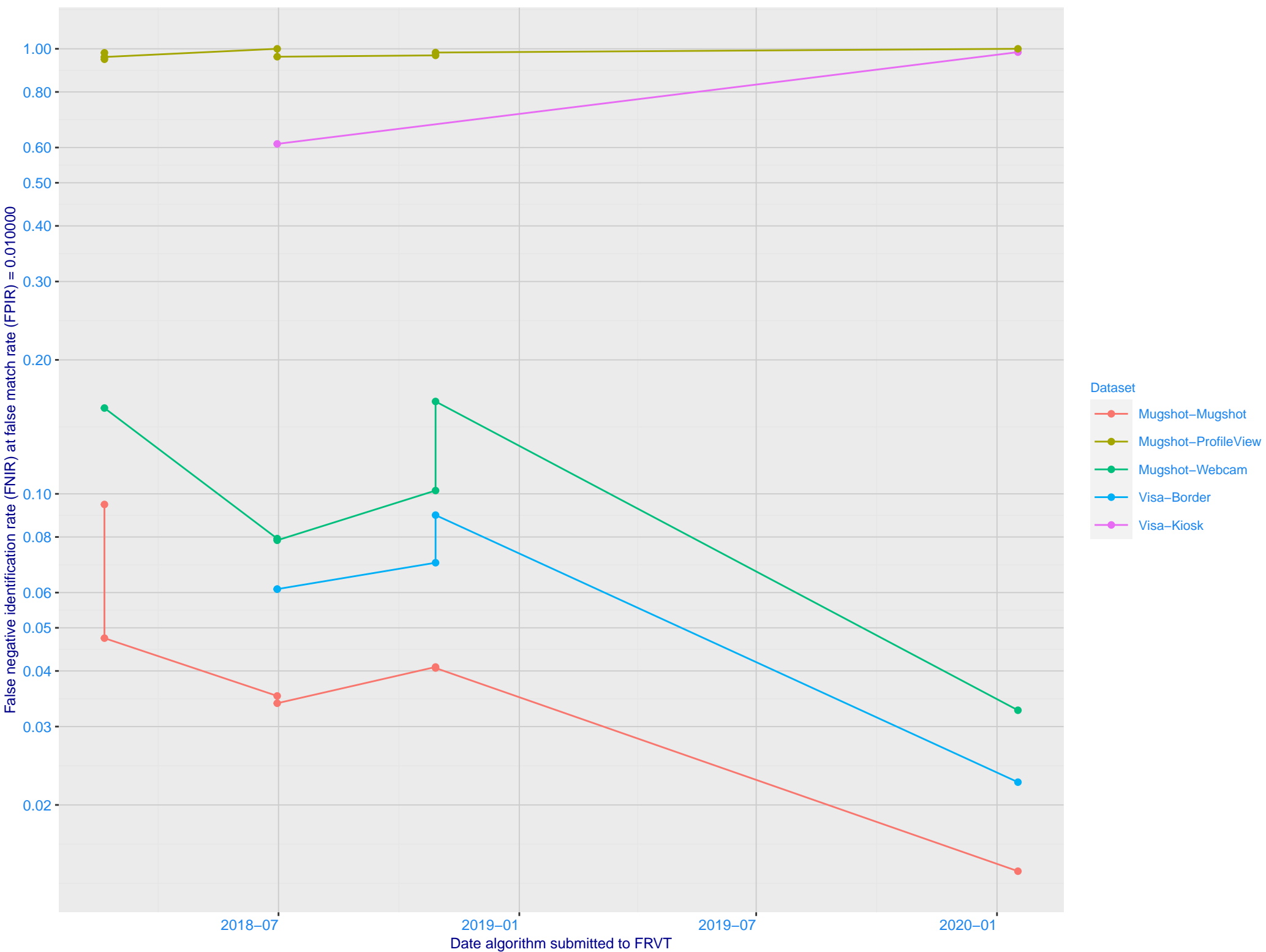
Immigration visa–border ranking 38 (out of 139) –– FNIR(1600000, T, L+1) = 0.0515, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa–kiosk ranking 130 (out of 134) –– FNIR(1600000, T, L+1) = 1.0000, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005
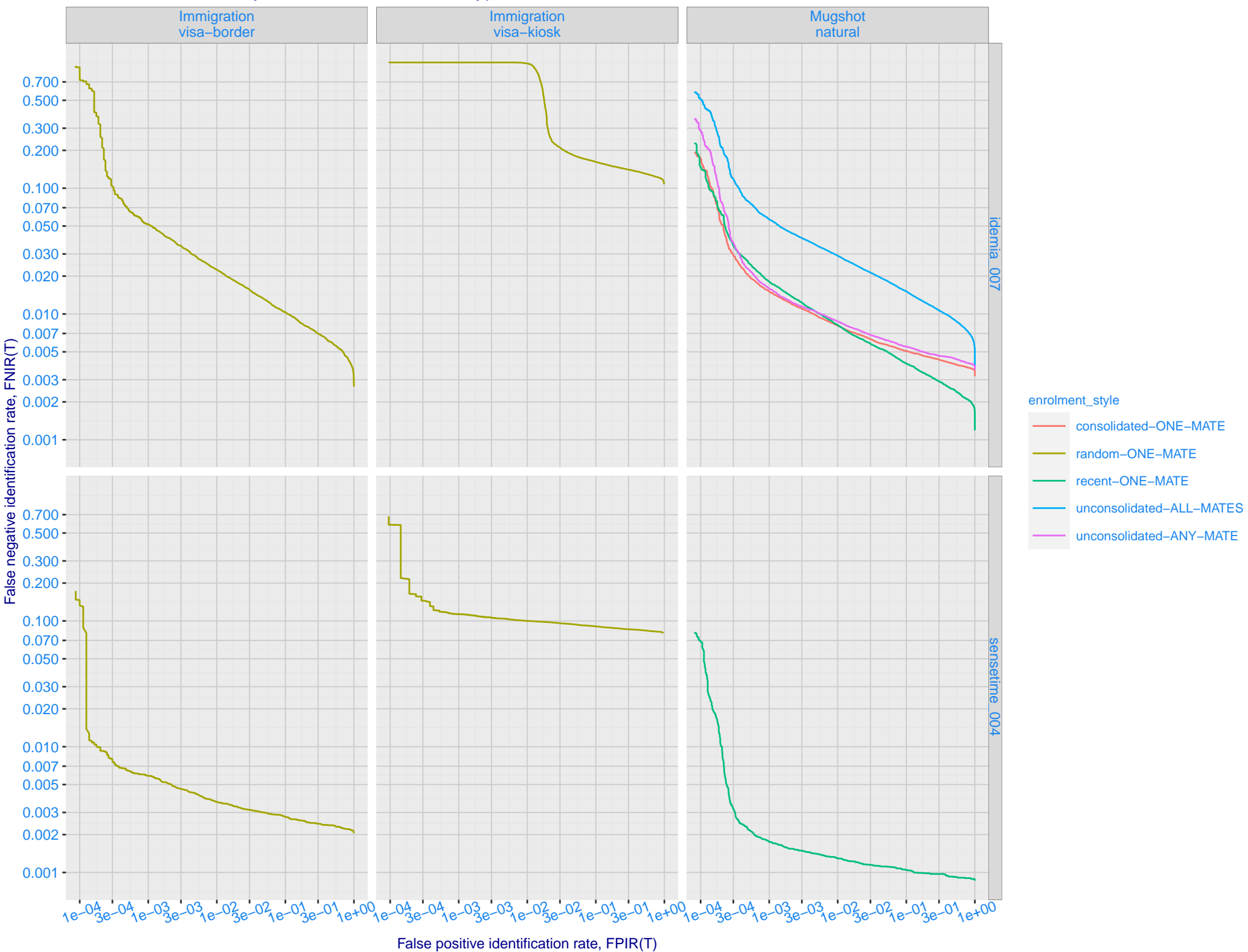
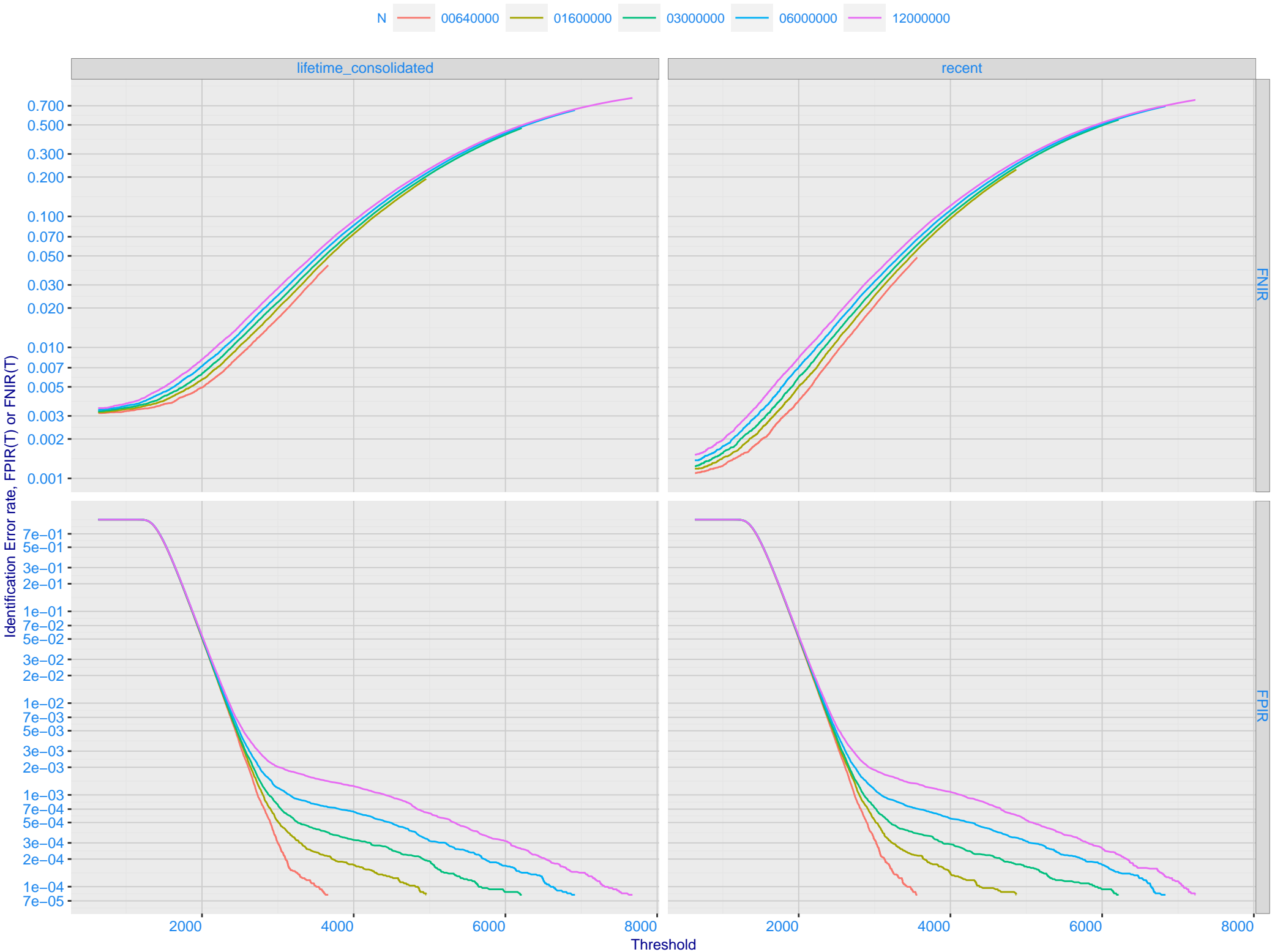B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

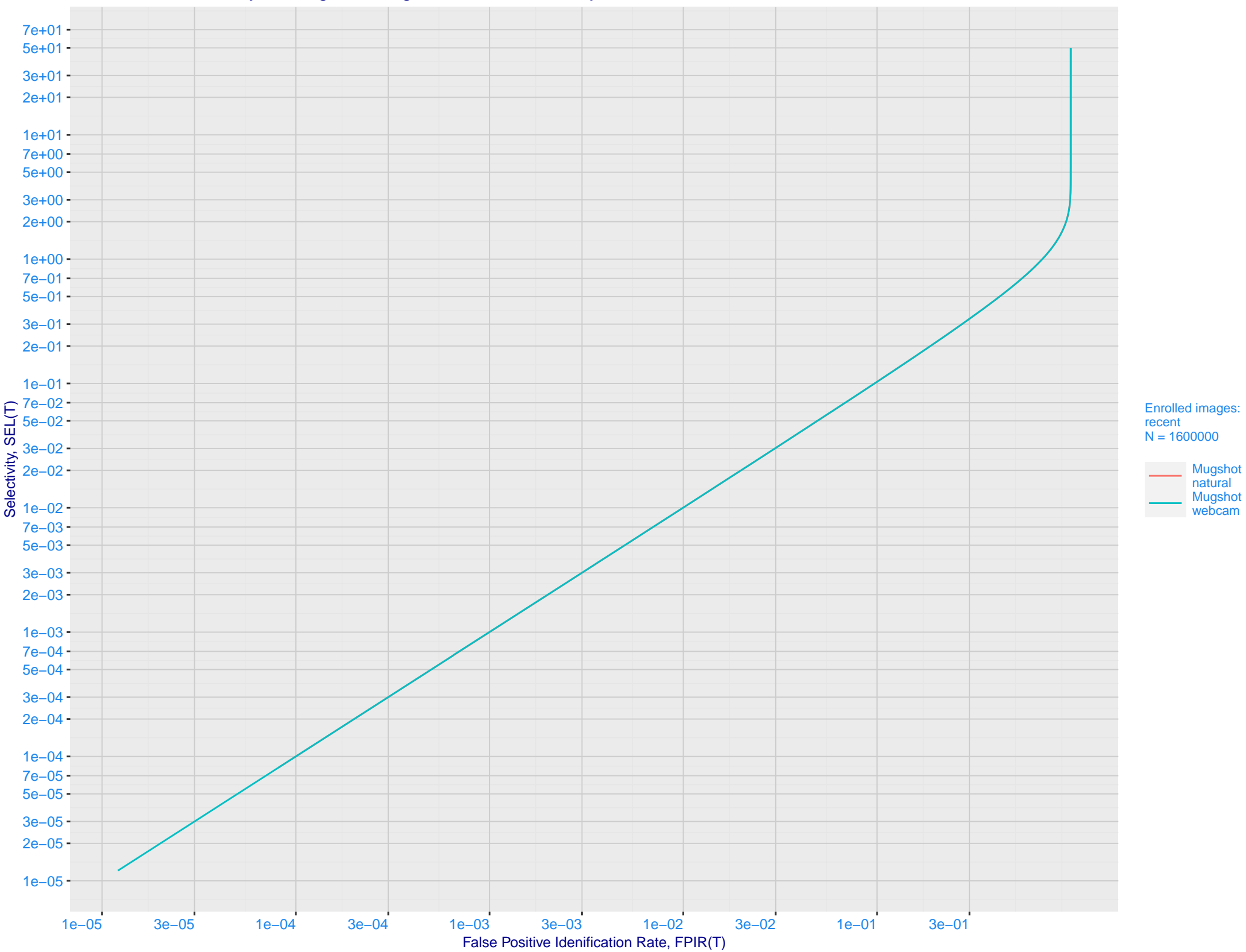**C: Evolution of accuracy for IDEMIA algorithms on three datasets 2018 – present**

D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
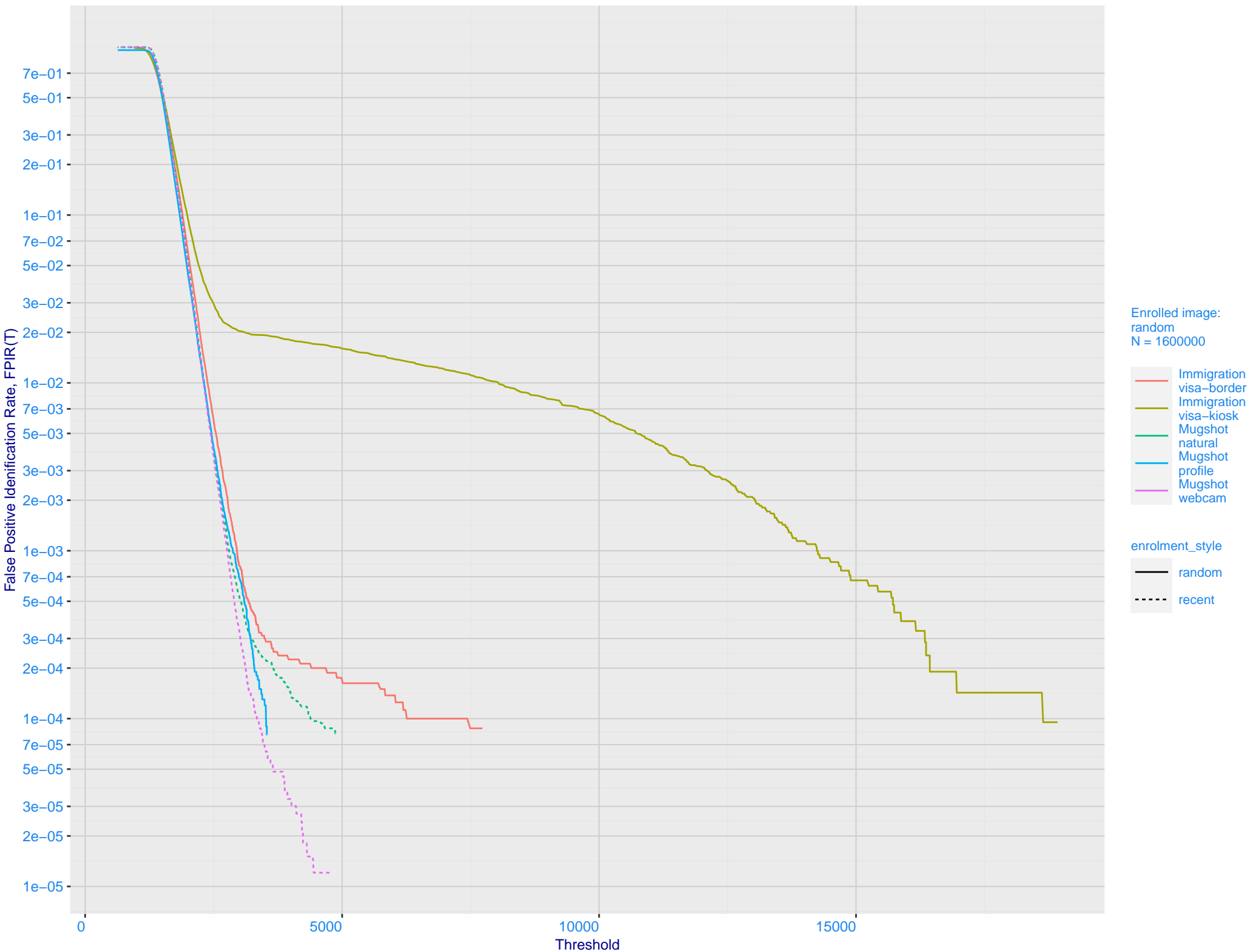
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
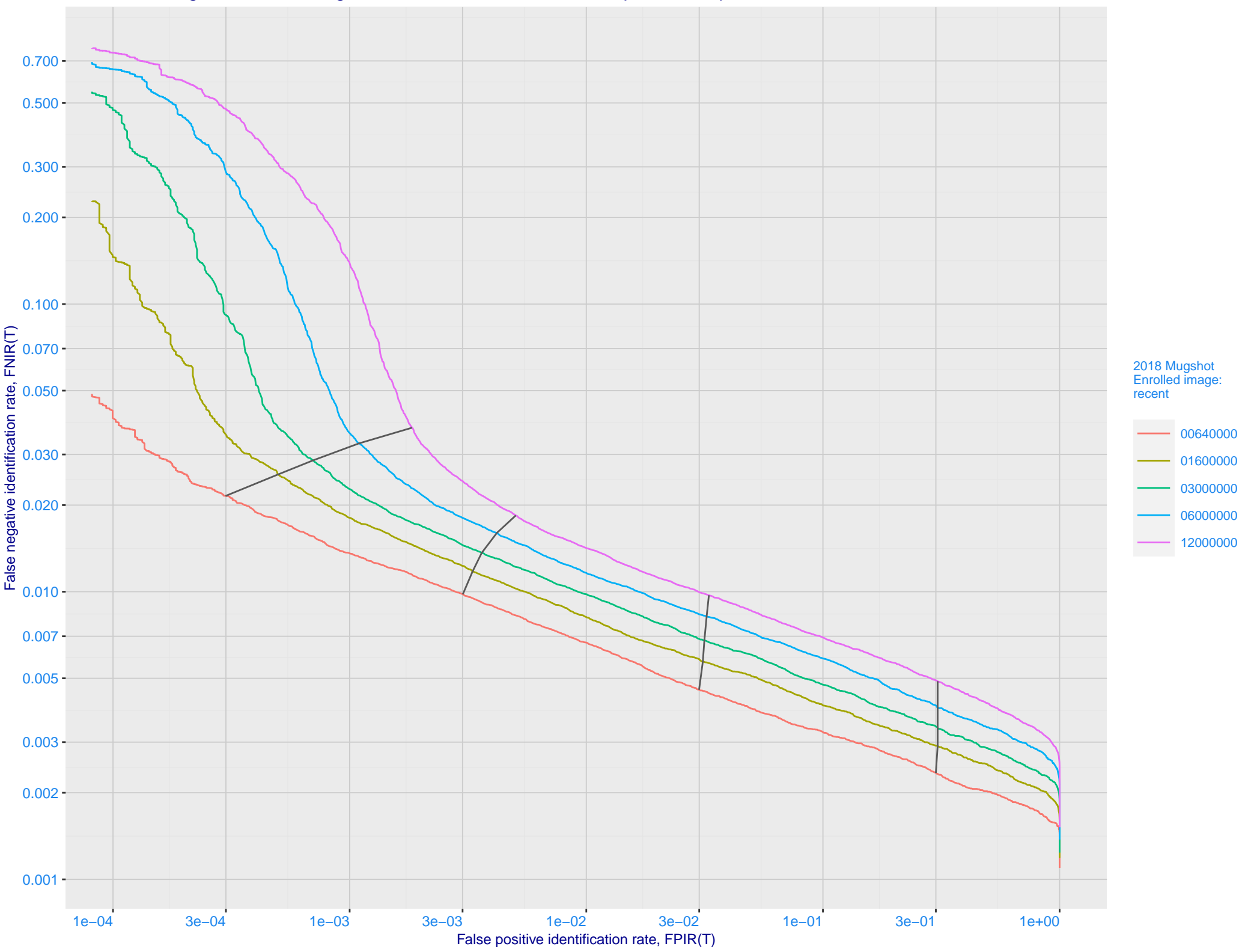
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
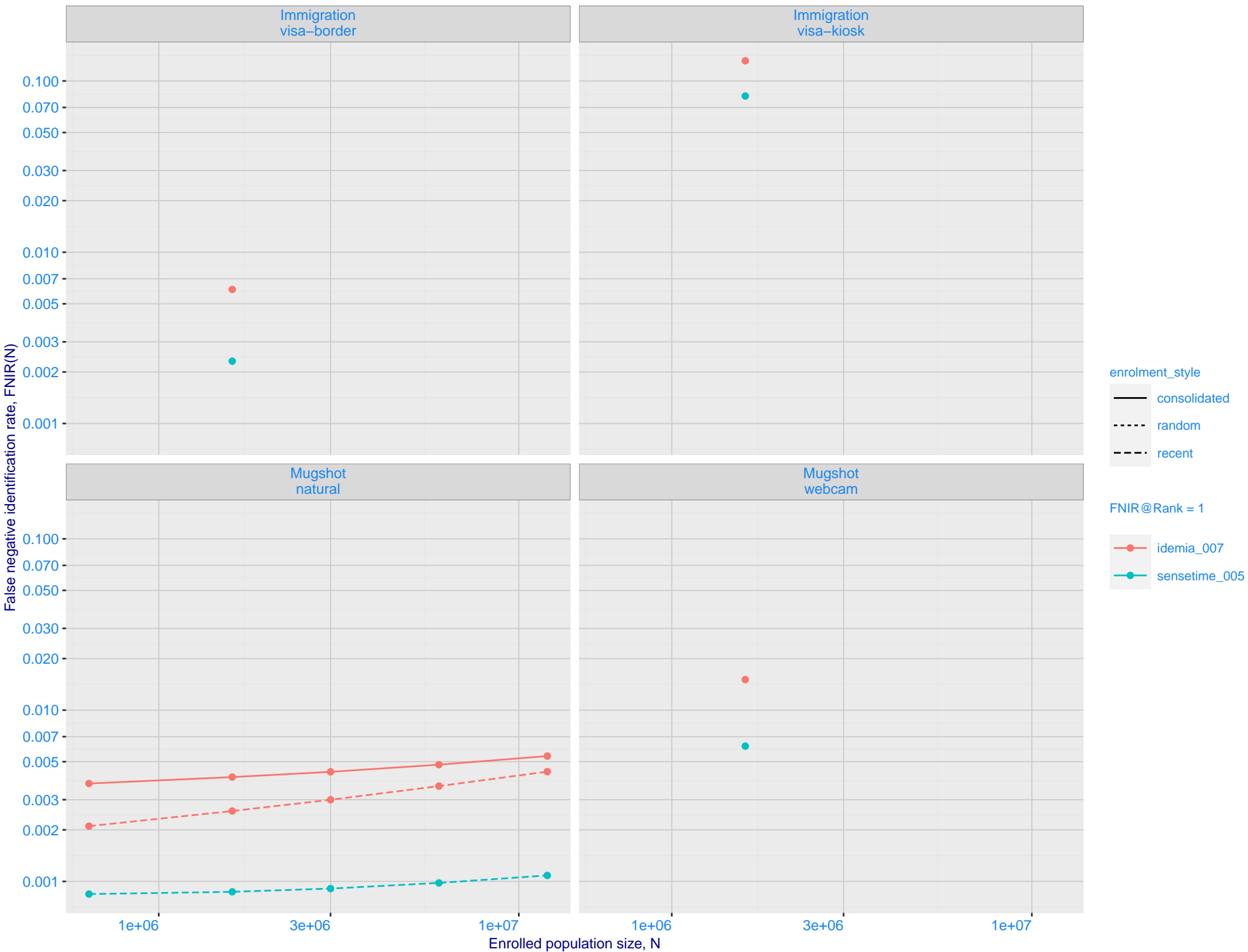
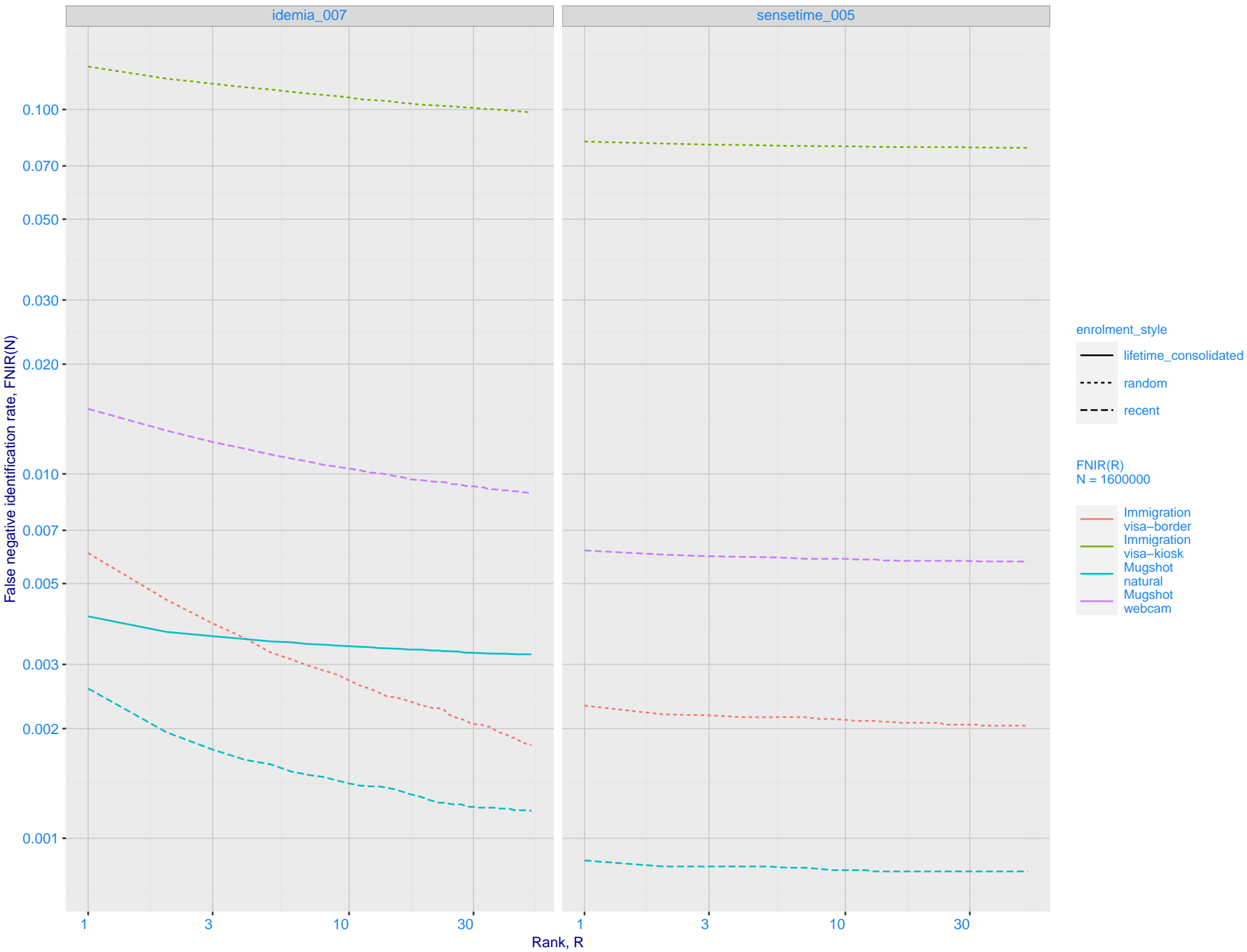G: FPIR dependence on T by probe type for N = 1600000 subjects

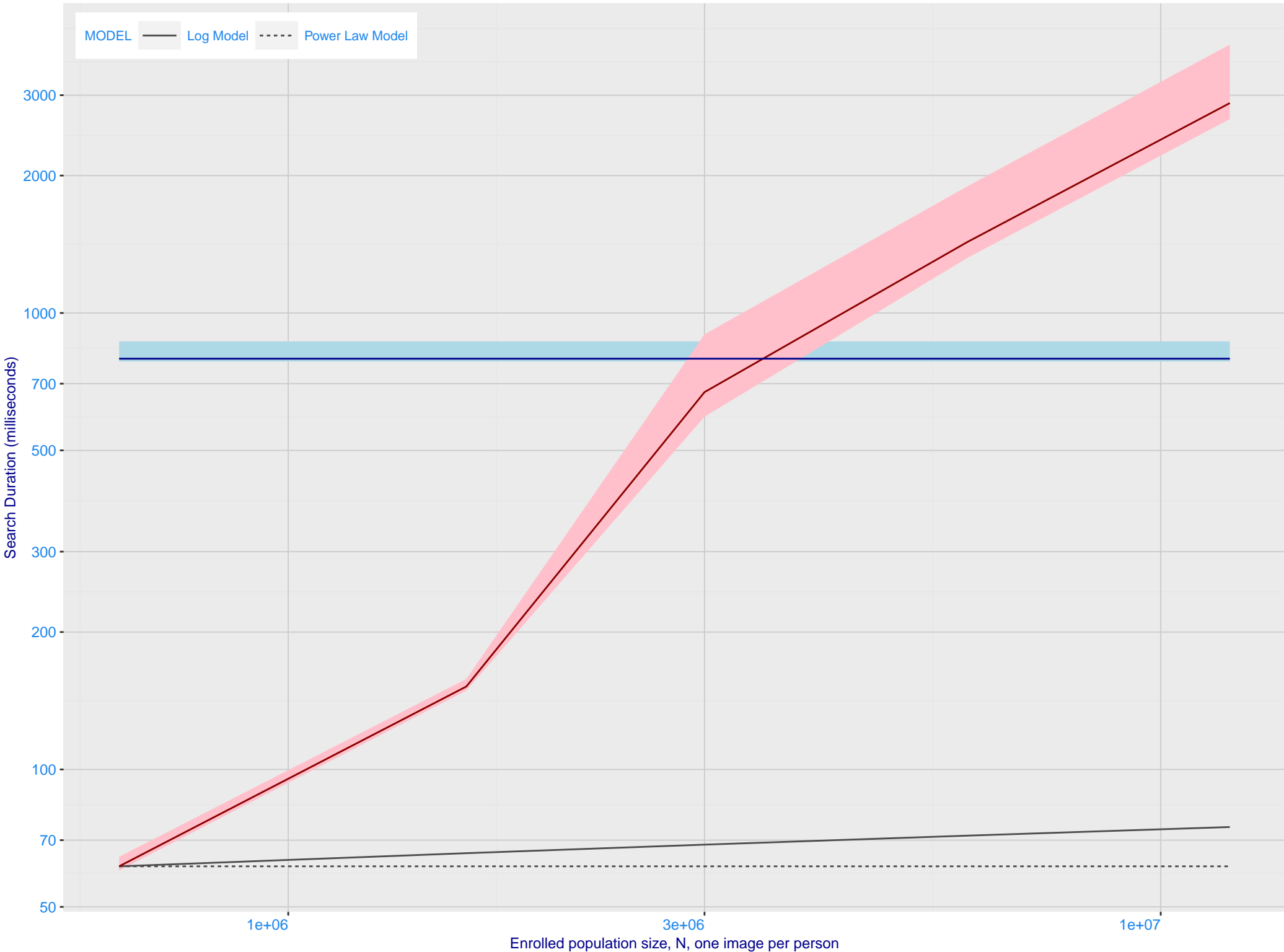H: DET for Mugshot natural images and various N. Links connect points of equal threshold.

I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

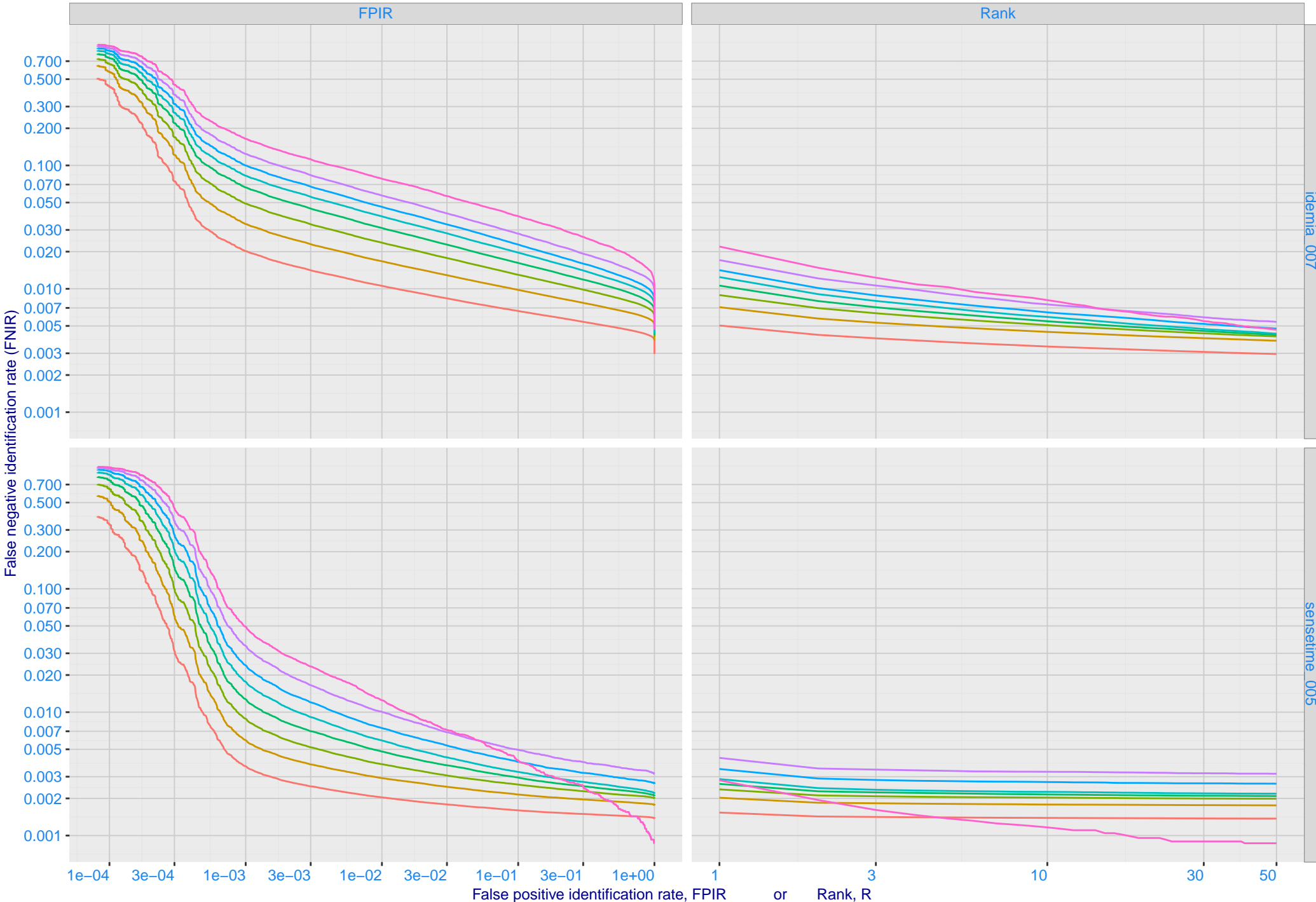J: Investigational mode: FNIR(1600000, R, 0) by probe type

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

Dataset: 2018 Mugshot   N = 3068801

(00,02] (04,06] (08,10] (12,14]
(02,04] (06,08] (10,12] (14,18]

N: Decline of genuine scores with ageing