A: Datasheet

Algorithm: rankone_009

Developer: Rank One Computing

Submission Date: 2020_06_26

Template size: 260 bytes

Template time (2.5 percentile): 179 msec

Template time (median): 185 msec

Template time (97.5 percentile): 242 msec

Investigation:

Frontal mugshot ranking 36 (out of 259) –– FNIR(1600000, 0, 1) = 0.0024 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 27 (out of 221) –– FNIR(1600000, 0, 1) = 0.0126 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 52 (out of 190) –– FNIR(1600000, 0, 1) = 0.5492 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 34 (out of 142) –– FNIR(1600000, 0, 1) = 0.0056 vs. lowest 0.0014 from visionlabs_009

Immigration visa–kiosk ranking 49 (out of 139) –– FNIR(1600000, 0, 1) = 0.1345 vs. lowest 0.0694 from cib_000

Identification:

Frontal mugshot ranking 26 (out of 259) –– FNIR(1600000, T, L+1) = 0.0176, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
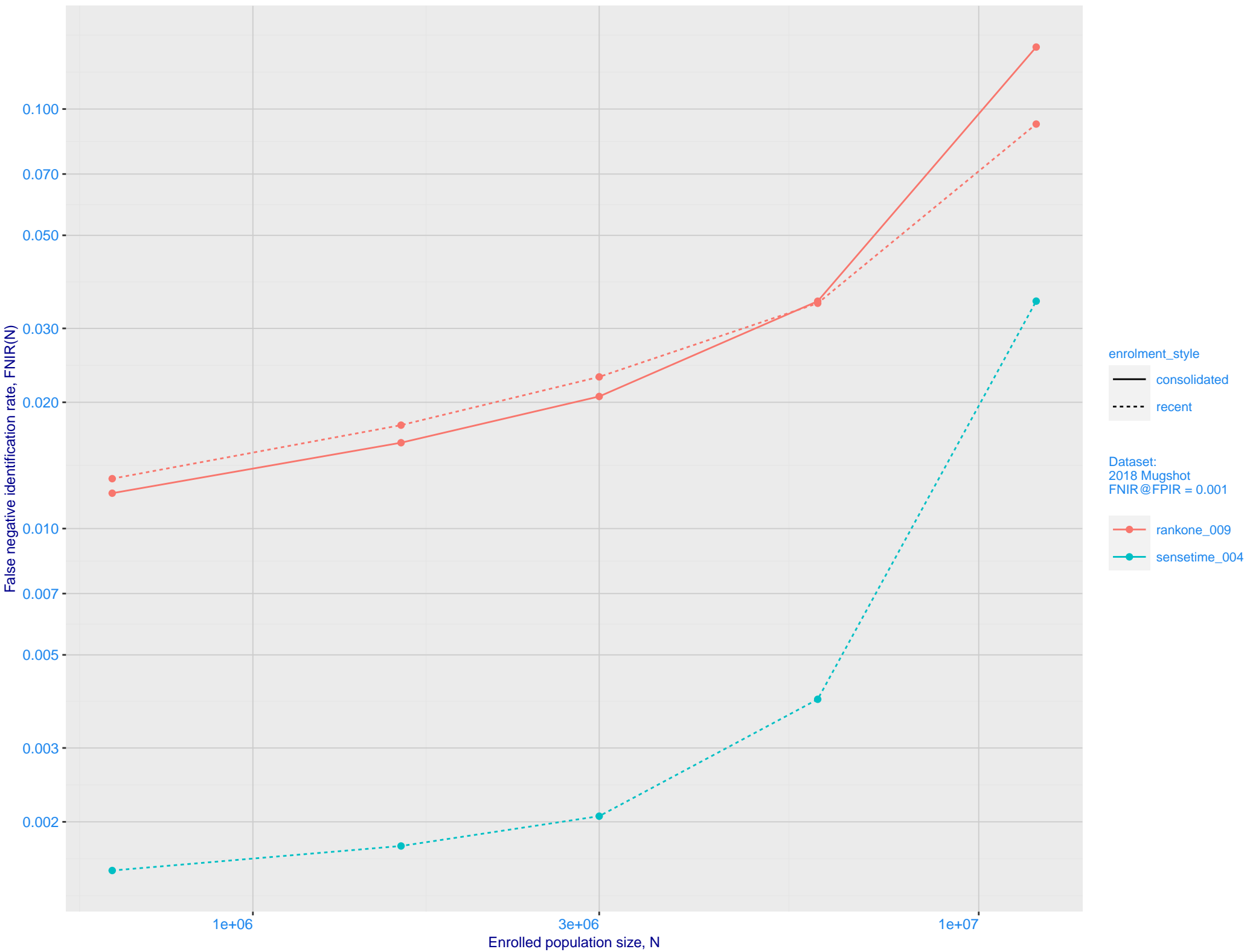
Mugshot webcam ranking 38 (out of 219) –– FNIR(1600000, T, L+1) = 0.0763, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 40 (out of 189) –– FNIR(1600000, T, L+1) = 0.9695, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005
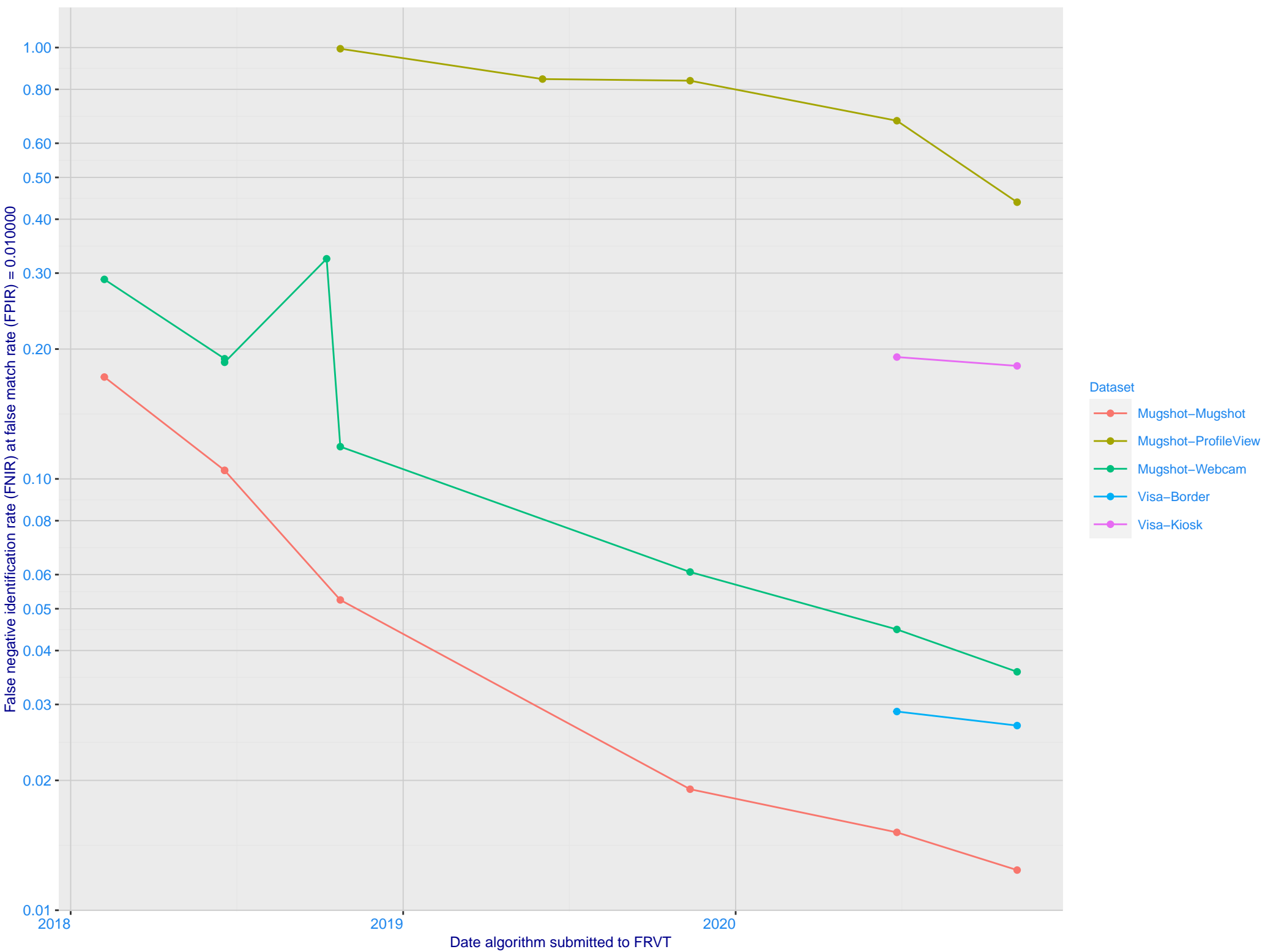
Immigration visa–border ranking 46 (out of 139) –– FNIR(1600000, T, L+1) = 0.0616, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa–kiosk ranking 41 (out of 134) –– FNIR(1600000, T, L+1) = 0.3278, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005
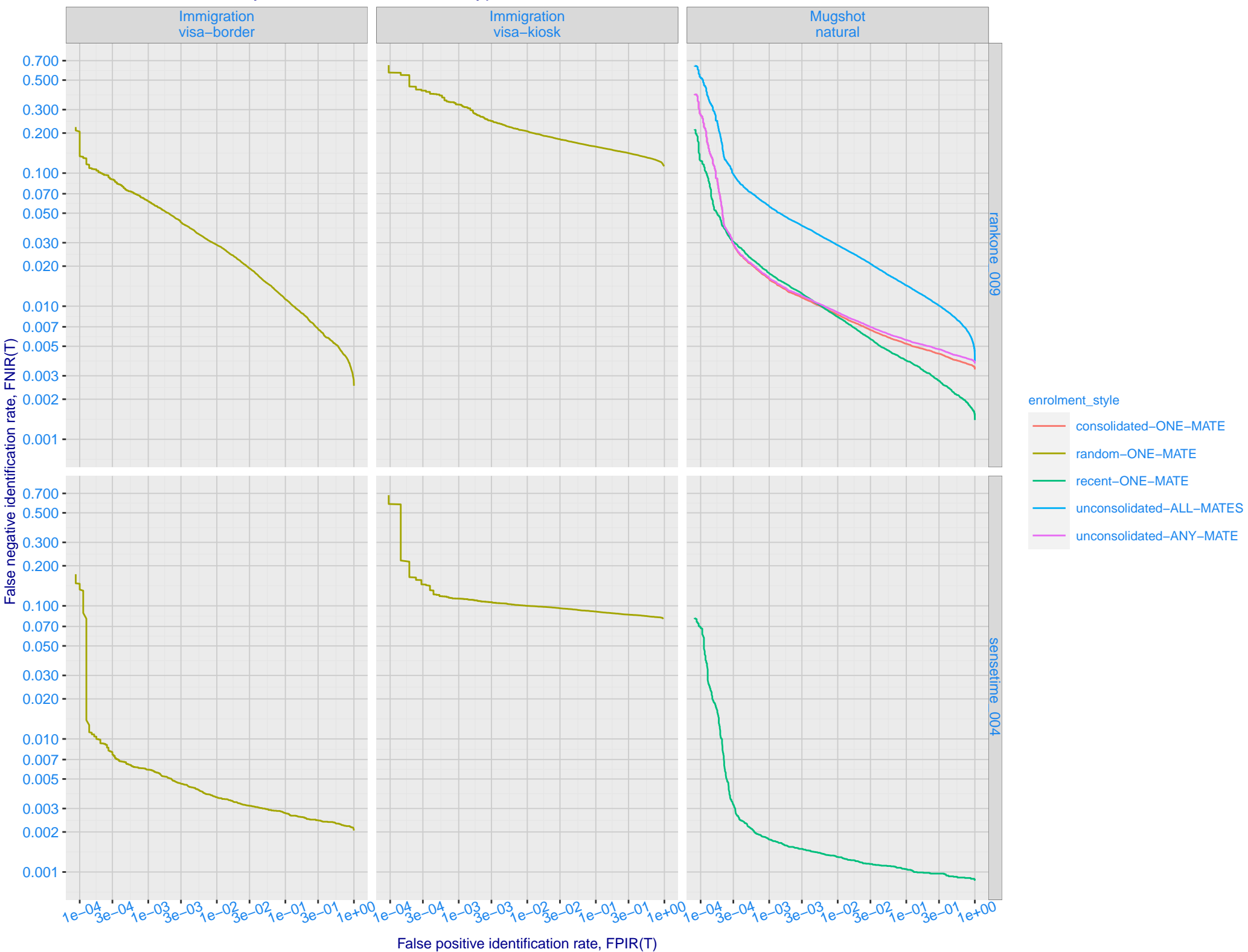
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
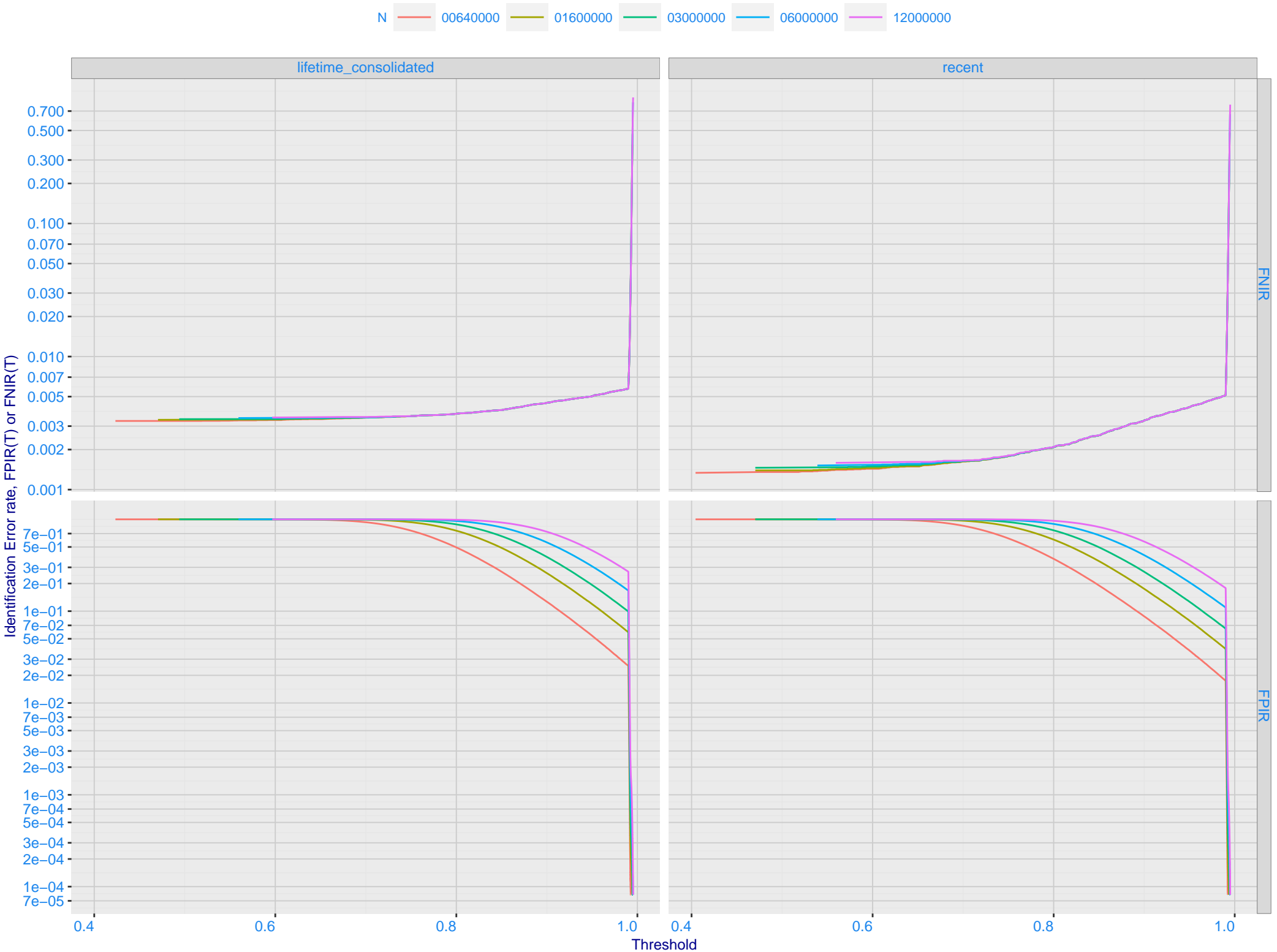
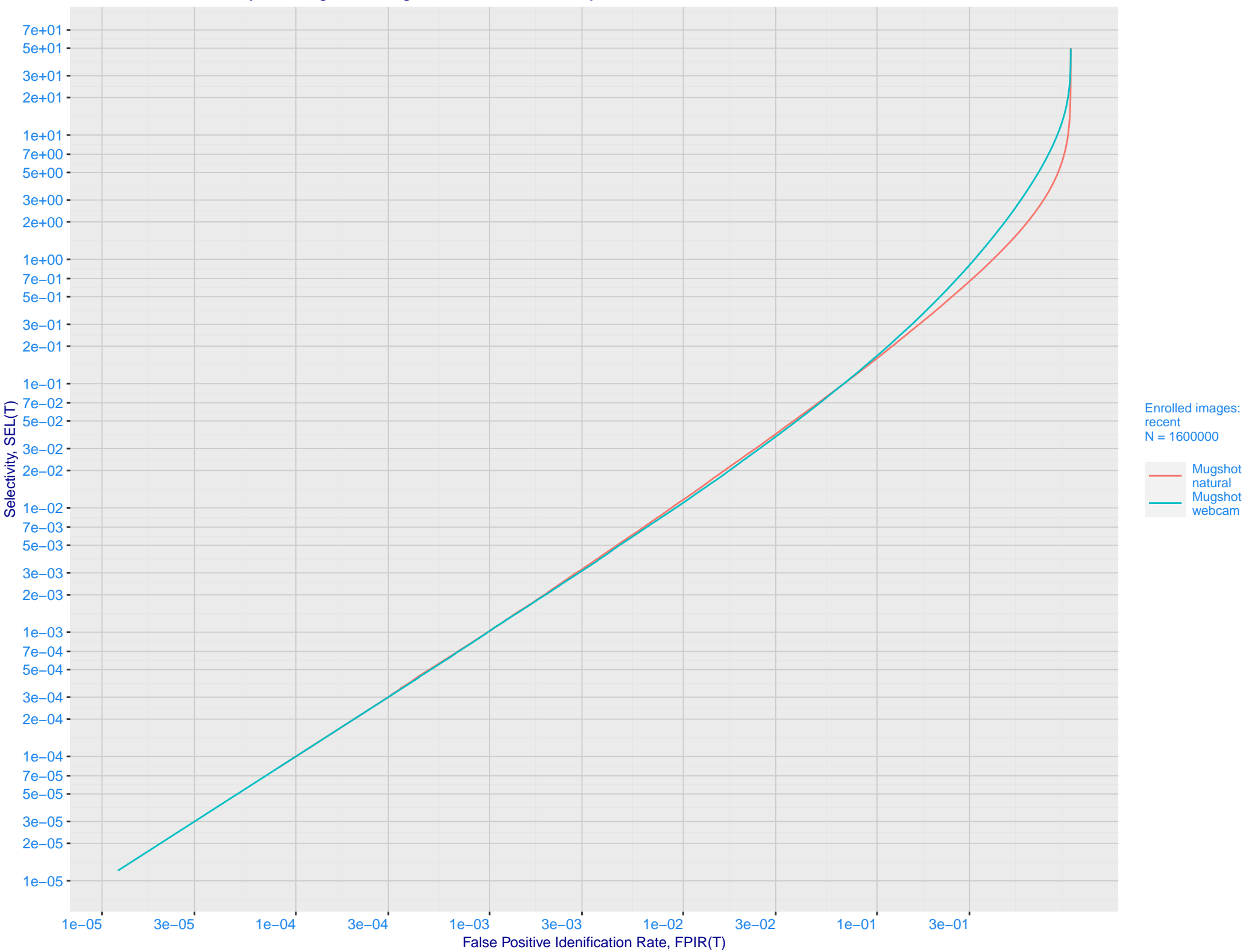**C: Evolution of accuracy for RANKONE algorithms on three datasets 2018 – present**

Date algorithm submitted to FRVT

False negative identification rate (FNIR) at false match rate (FPIR) = 0.010000

Dataset
- Mugshot–Mugshot
- Mugshot–ProfileView
- Mugshot–Webcam
- Visa–Border
- Visa–Kiosk

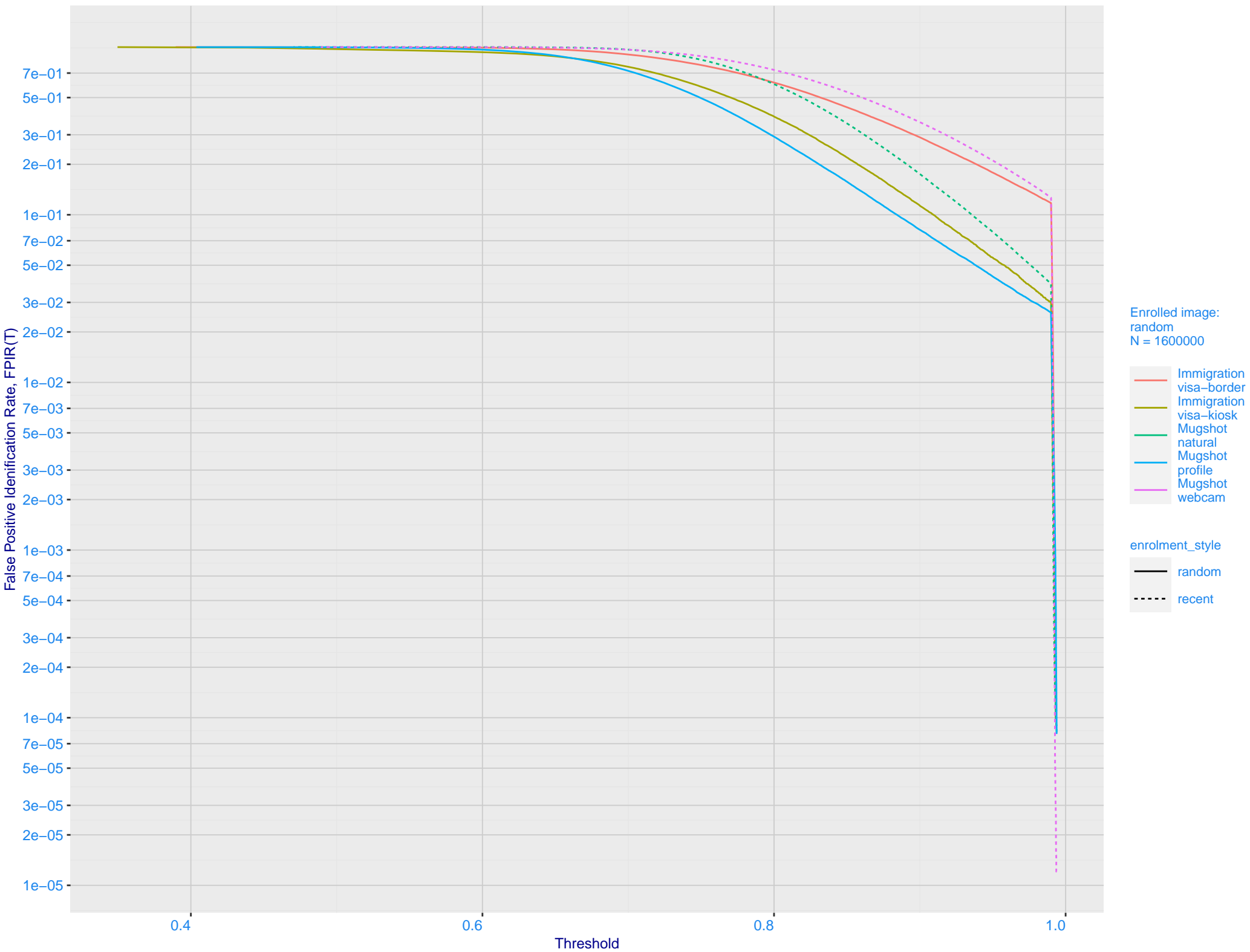D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

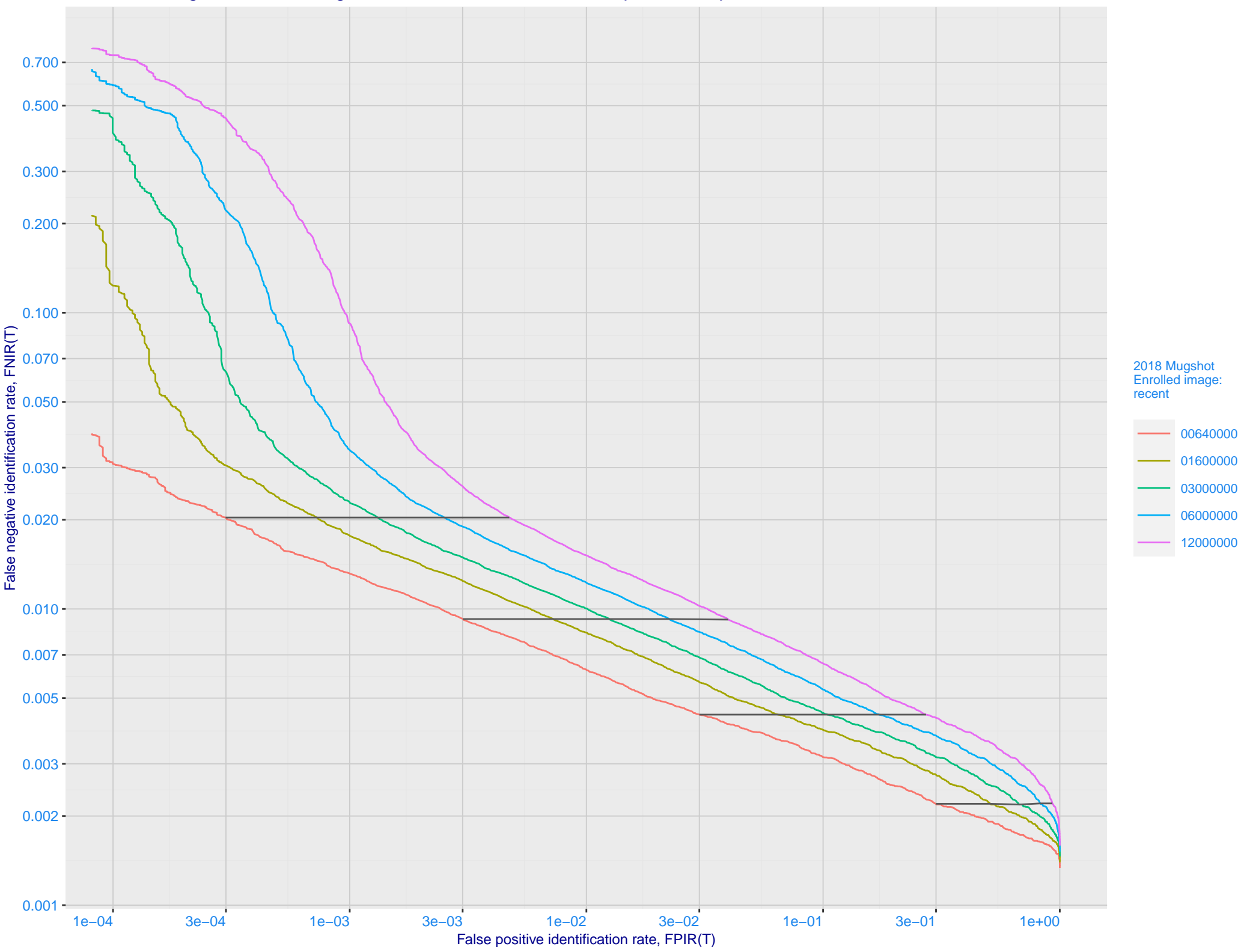E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
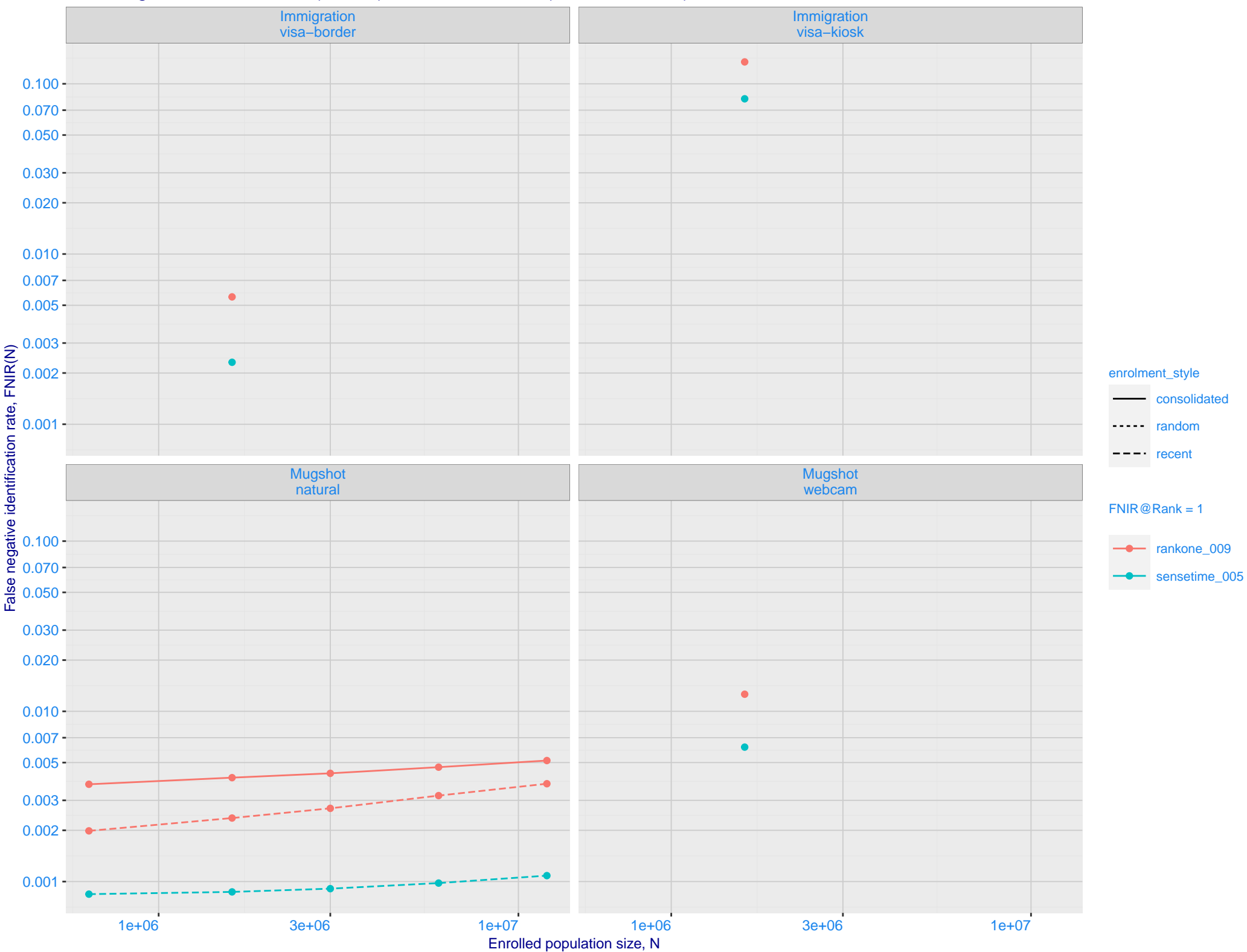
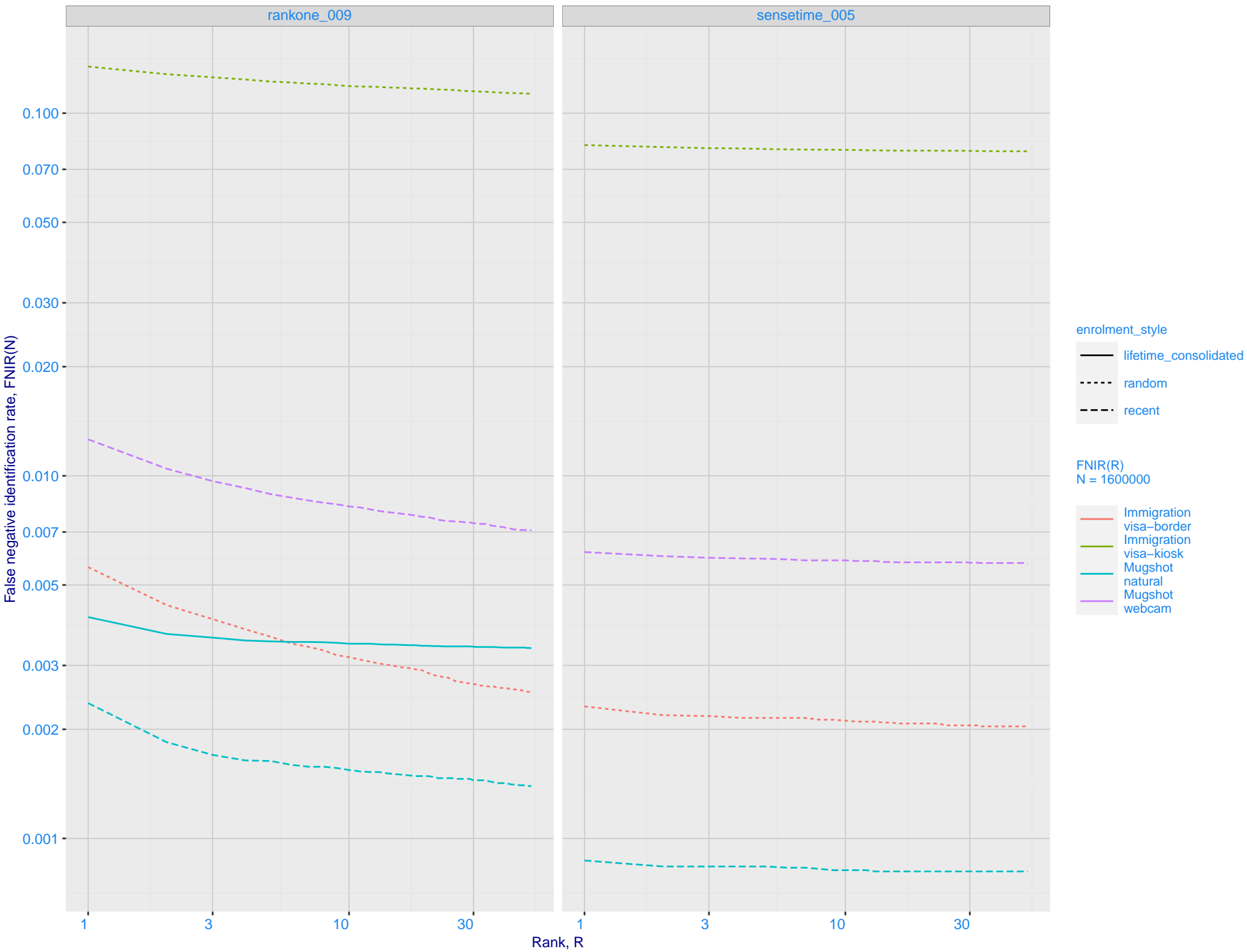G: FPIR dependence on T by probe type for N = 1600000 subjects

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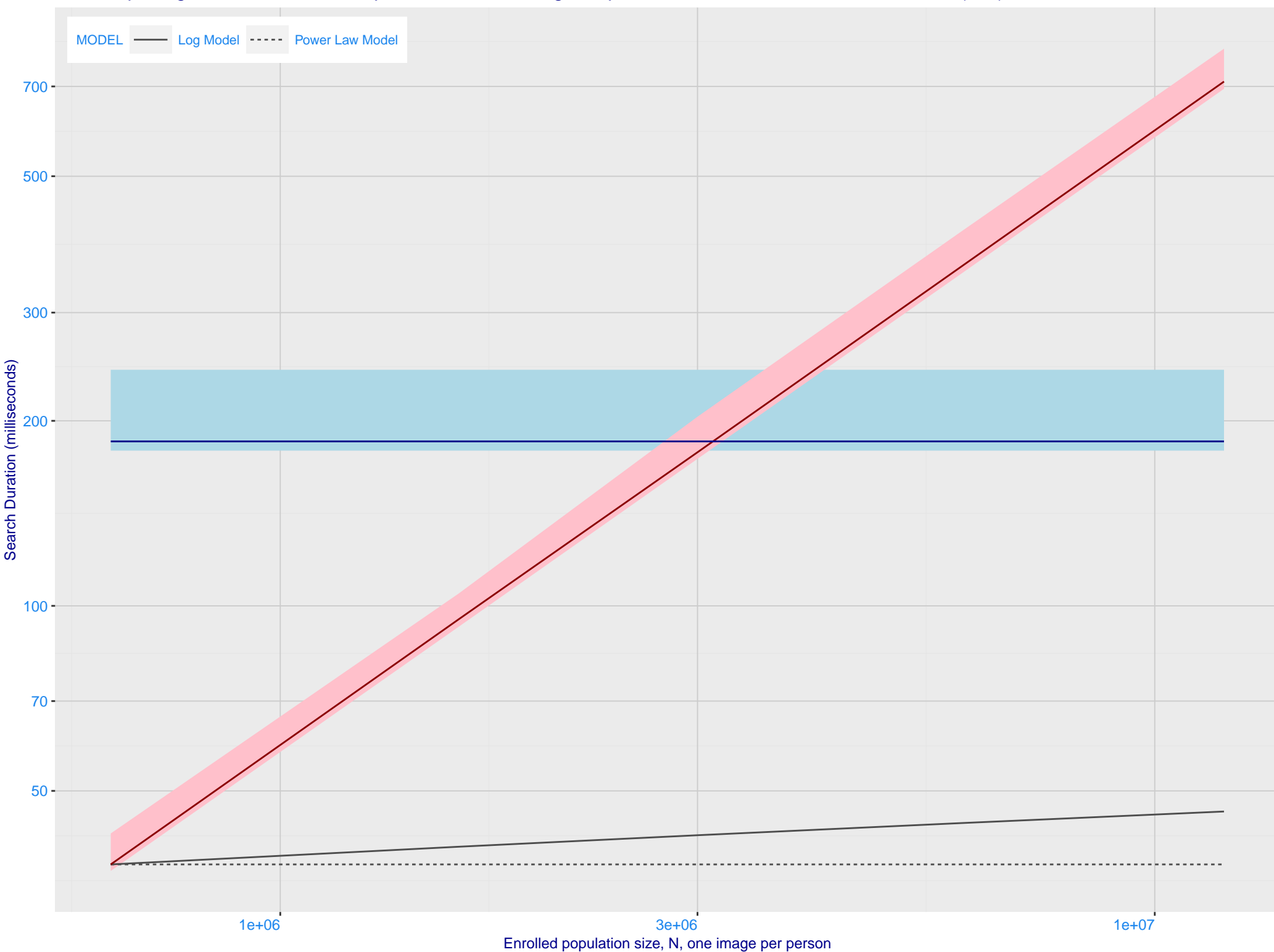
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

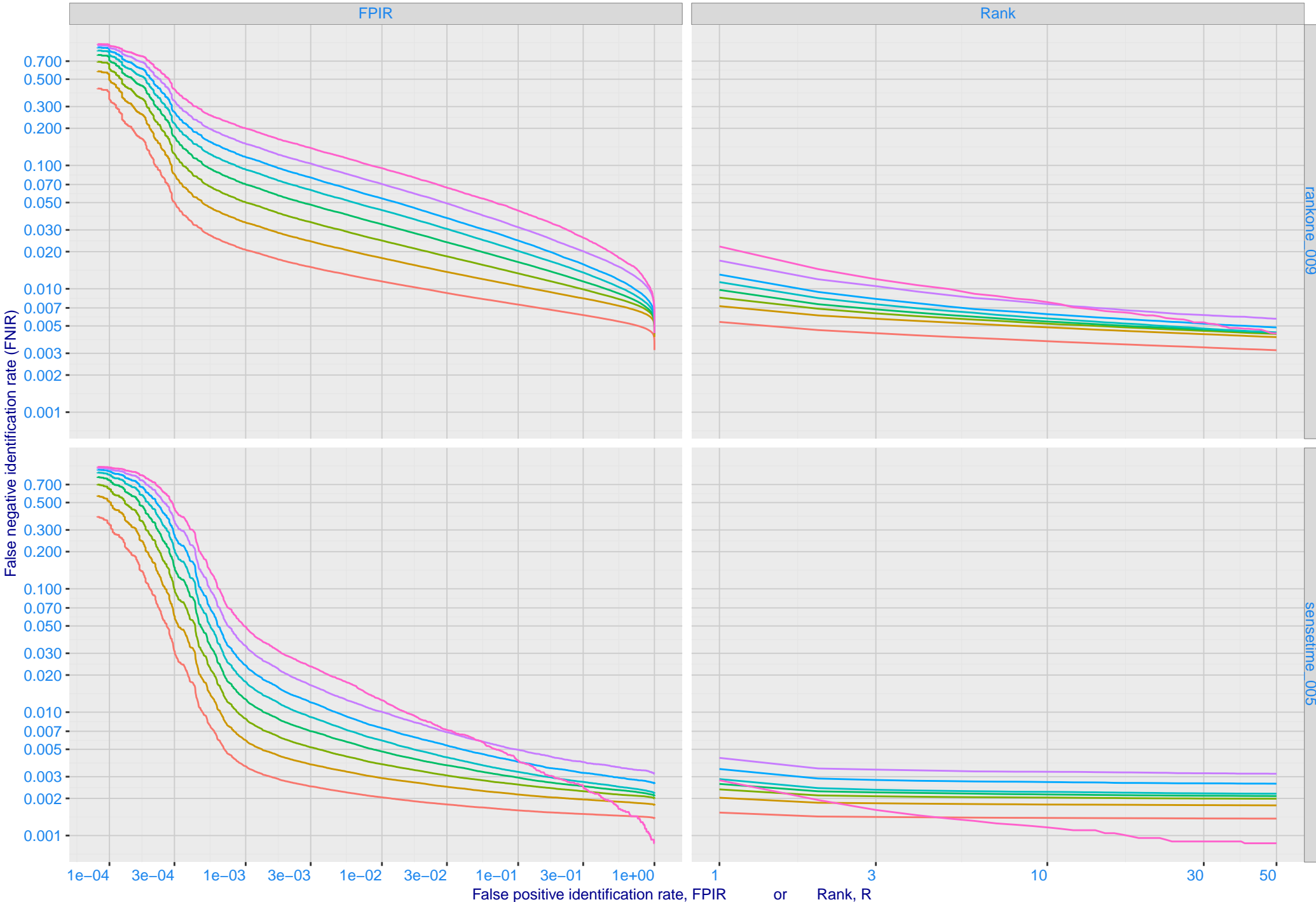J: Investigational mode: FNIR(1600000, R, 0) by probe type

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

N: Decline of genuine scores with ageing