A: Datasheet

Algorithm: dermalog_0

Developer: Dermalog

Submission Date: 2018_02_16

Template size: 128 bytes

Template time (2.5 percentile): 305 msec

Template time (median): 341 msec

Template time (97.5 percentile): 400 msec

Investigation:

Frontal mugshot ranking 238 (out of 279) –– FNIR(1600000, 0, 1) = 0.1286 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 208 (out of 241) –– FNIR(1600000, 0, 1) = 0.2185 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 137 (out of 210) –– FNIR(1600000, 0, 1) = 0.9299 vs. lowest 0.0587 from xforwardai_002

Immigration visa–border ranking 125 (out of 168) –– FNIR(1600000, 0, 1) = 0.1371 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 134 (out of 165) –– FNIR(1600000, 0, 1) = 0.4705 vs. lowest 0.0568 from cloudwalk_hr_000

Identification:

Frontal mugshot ranking 231 (out of 279) –– FNIR(1600000, T, L+1) = 0.4862, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
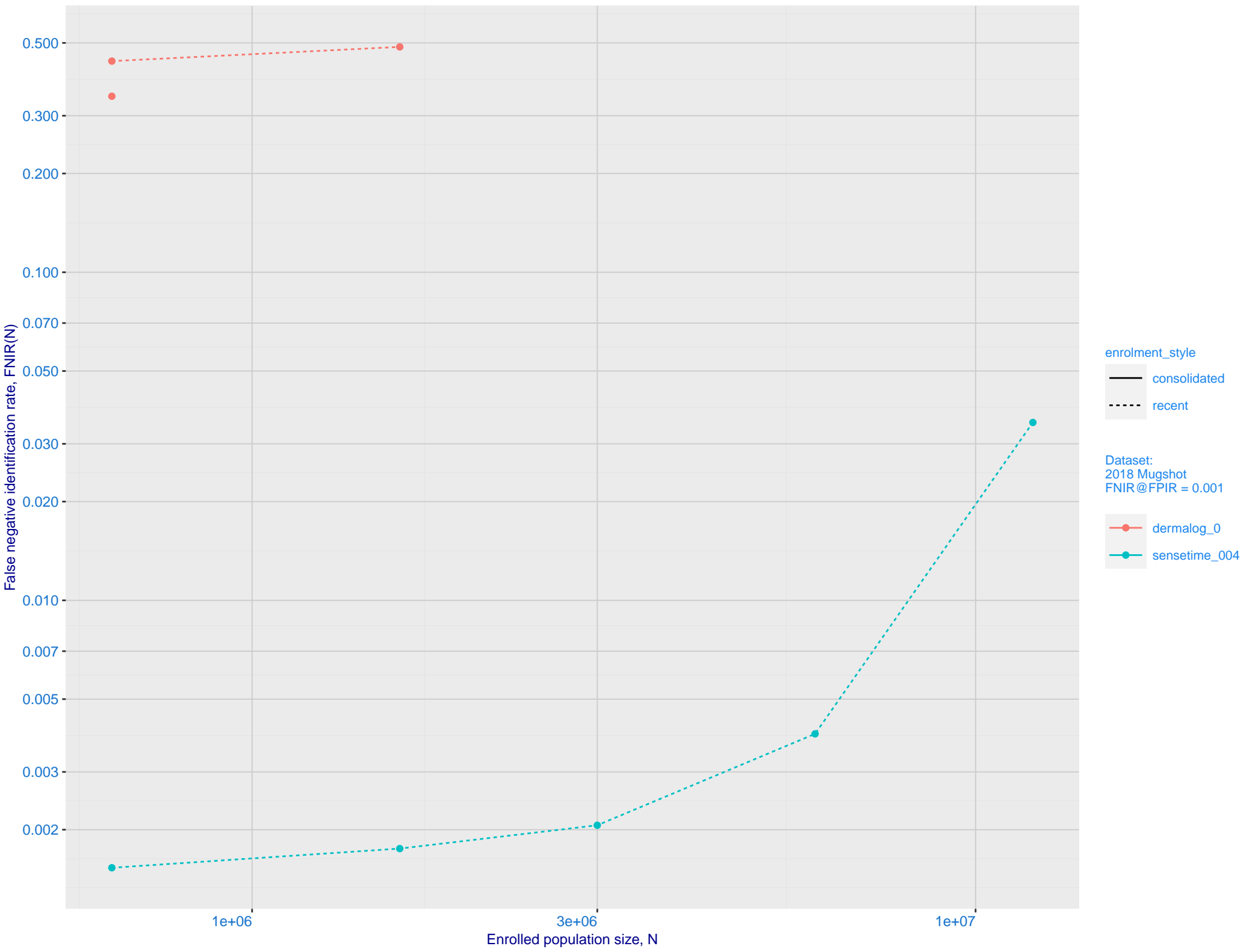
Mugshot webcam ranking 206 (out of 236) –– FNIR(1600000, T, L+1) = 0.6572, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 110 (out of 209) –– FNIR(1600000, T, L+1) = 0.9953, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000
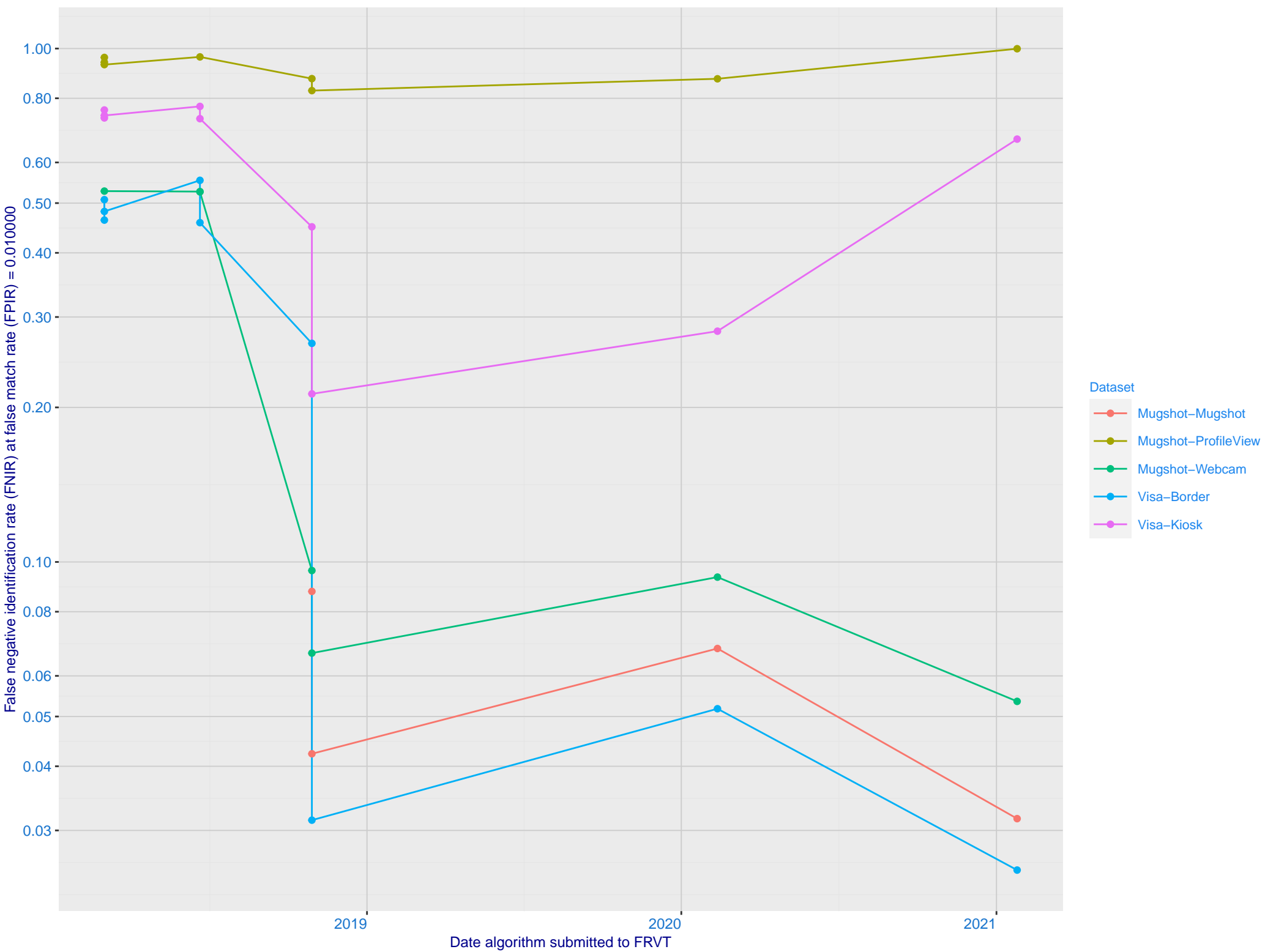
Immigration visa–border ranking 127 (out of 167) –– FNIR(1600000, T, L+1) = 0.6095, FPIR=0.001000 vs. lowest 0.0047 from idemia_008

Immigration visa–kiosk ranking 106 (out of 162) –– FNIR(1600000, T, L+1) = 0.8518, FPIR=0.001000 vs. lowest 0.0996 from cloudwalk_hr_000
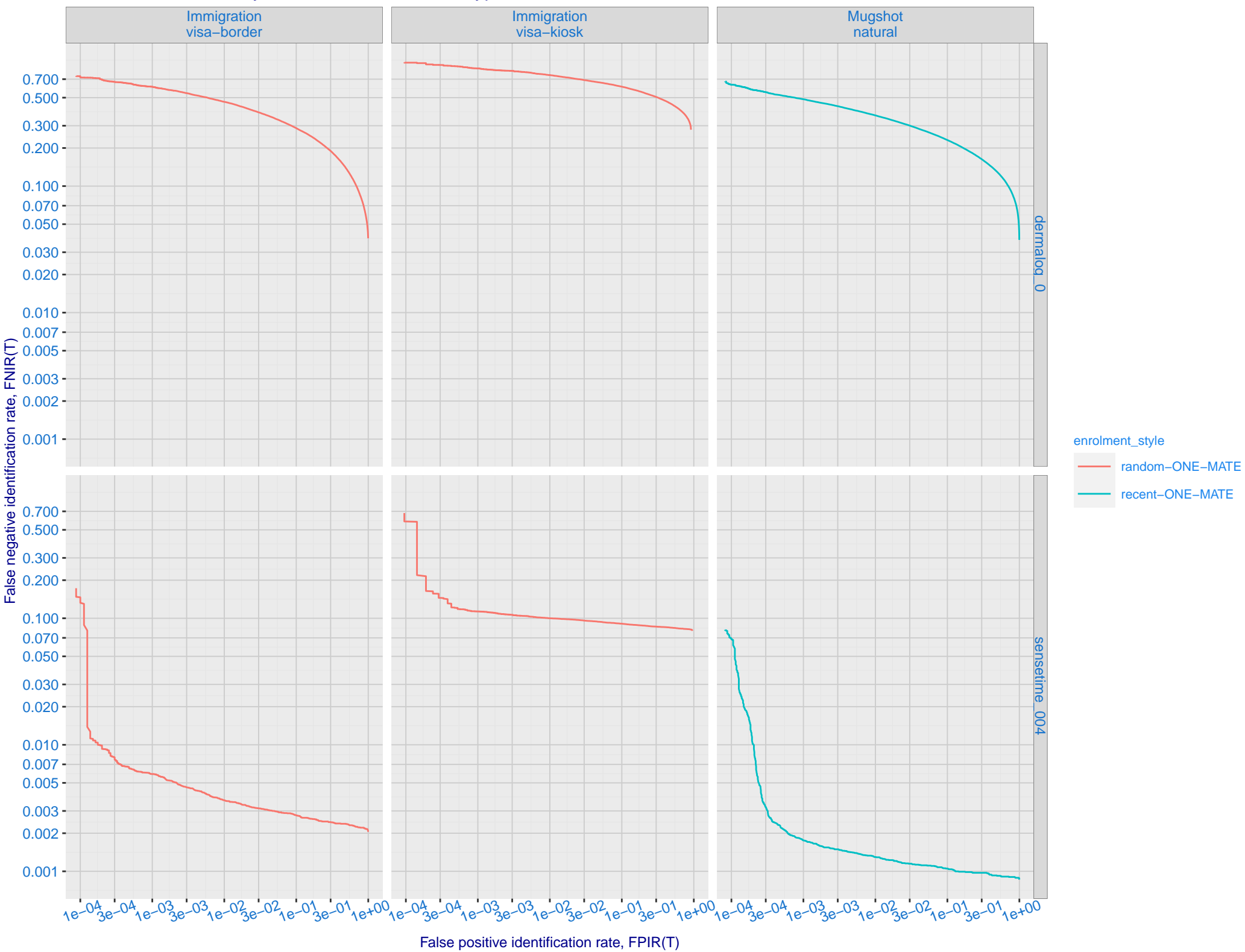
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
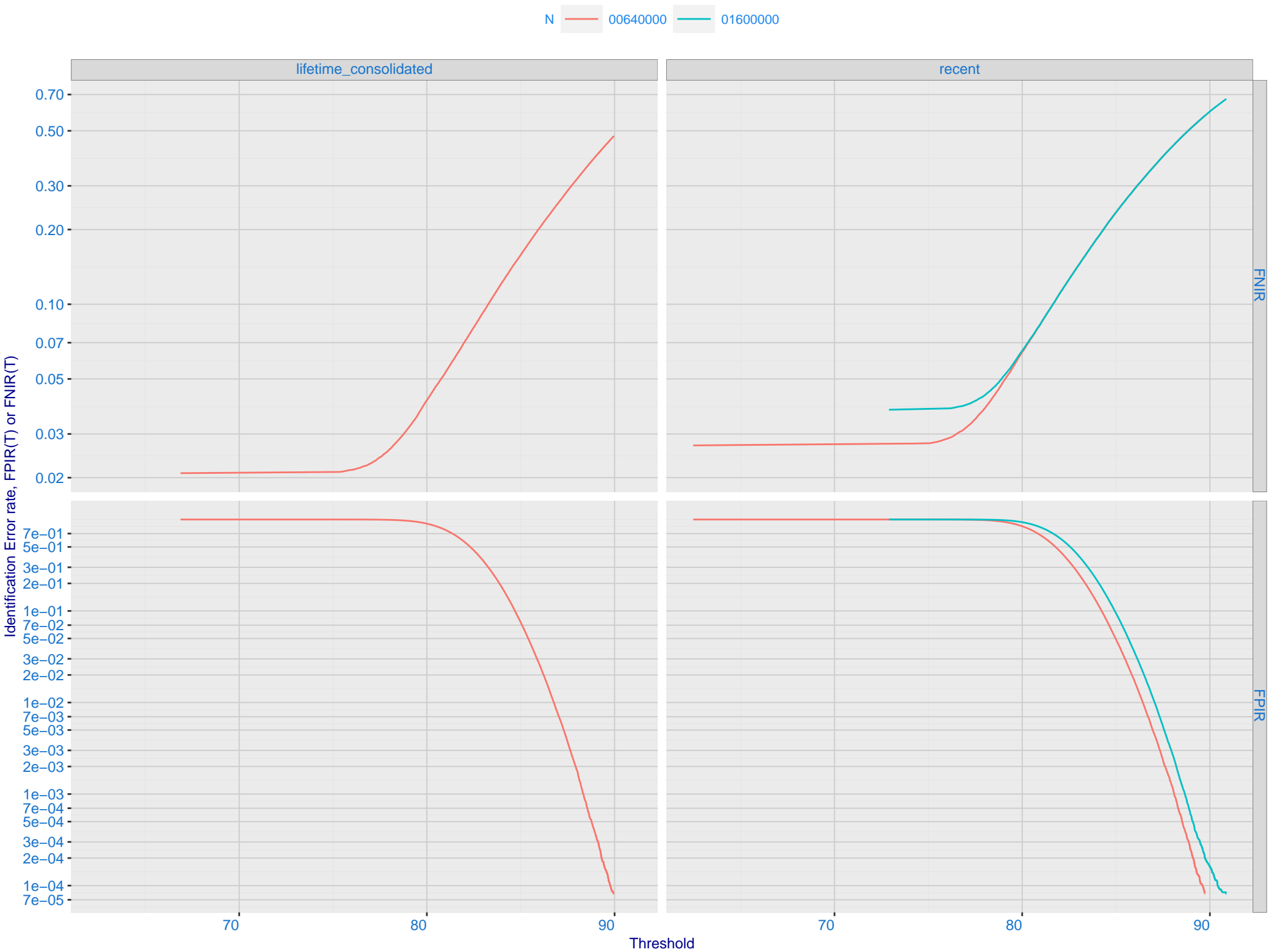
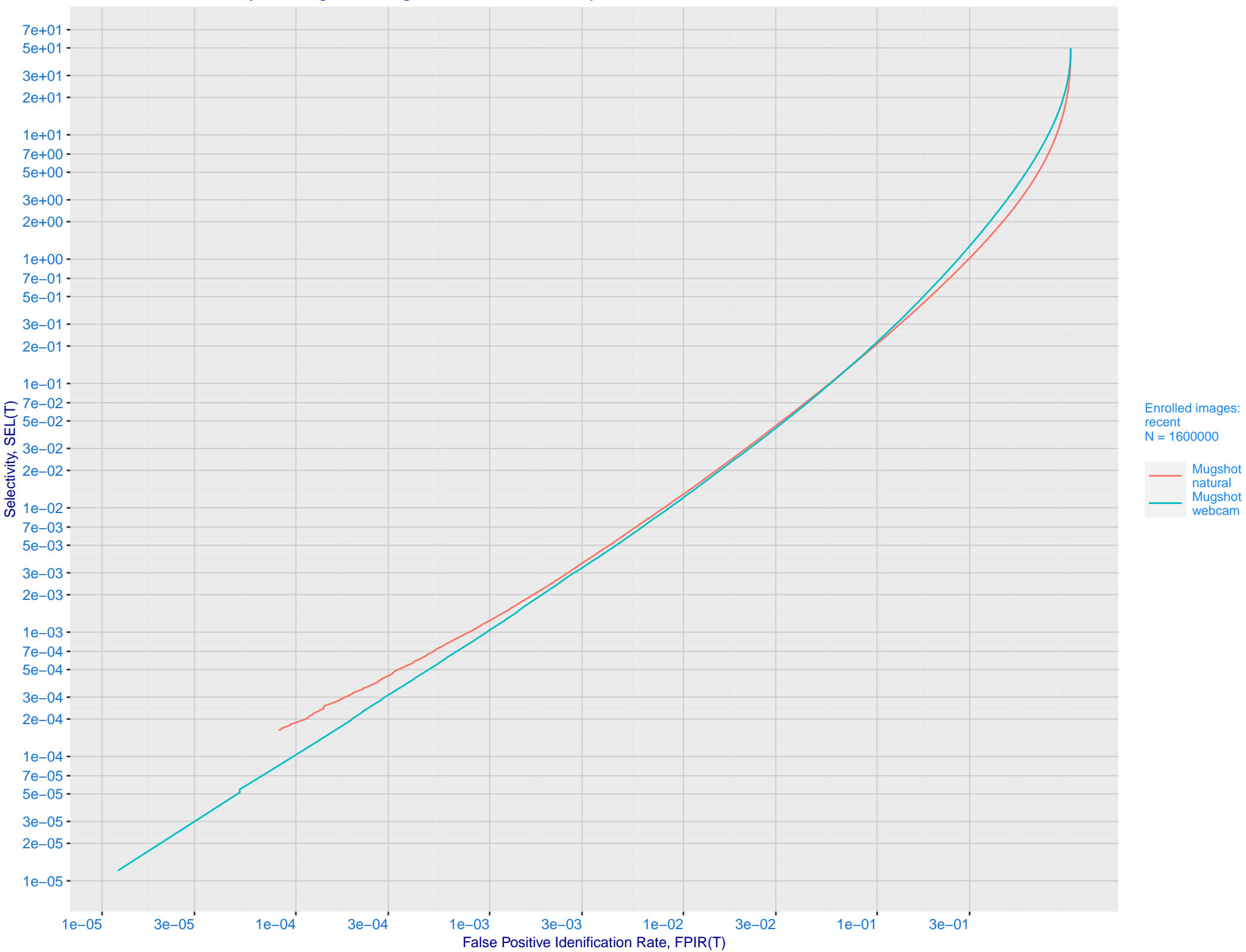**C: Evolution of accuracy for DERMALOG algorithms on three datasets 2018 – present**

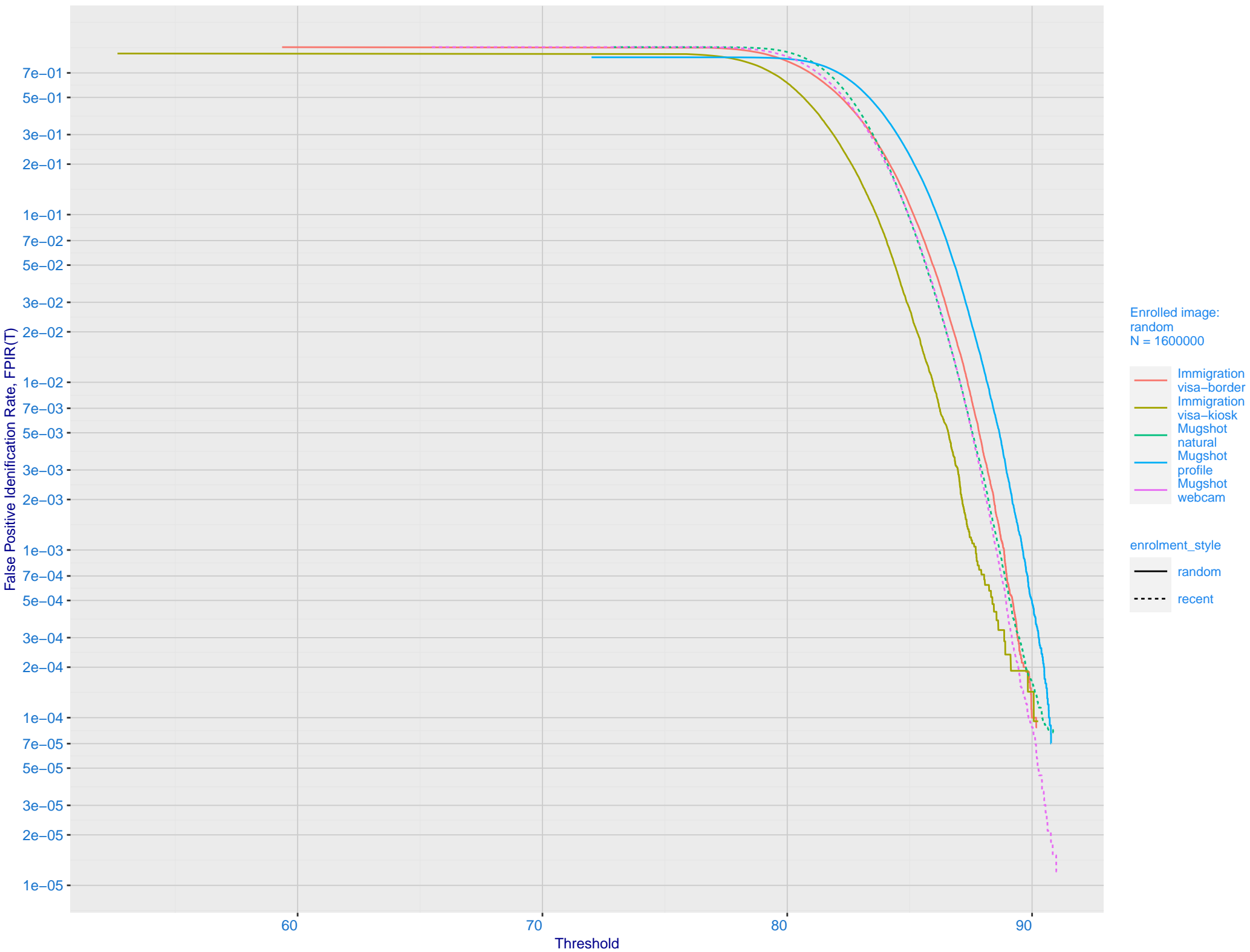D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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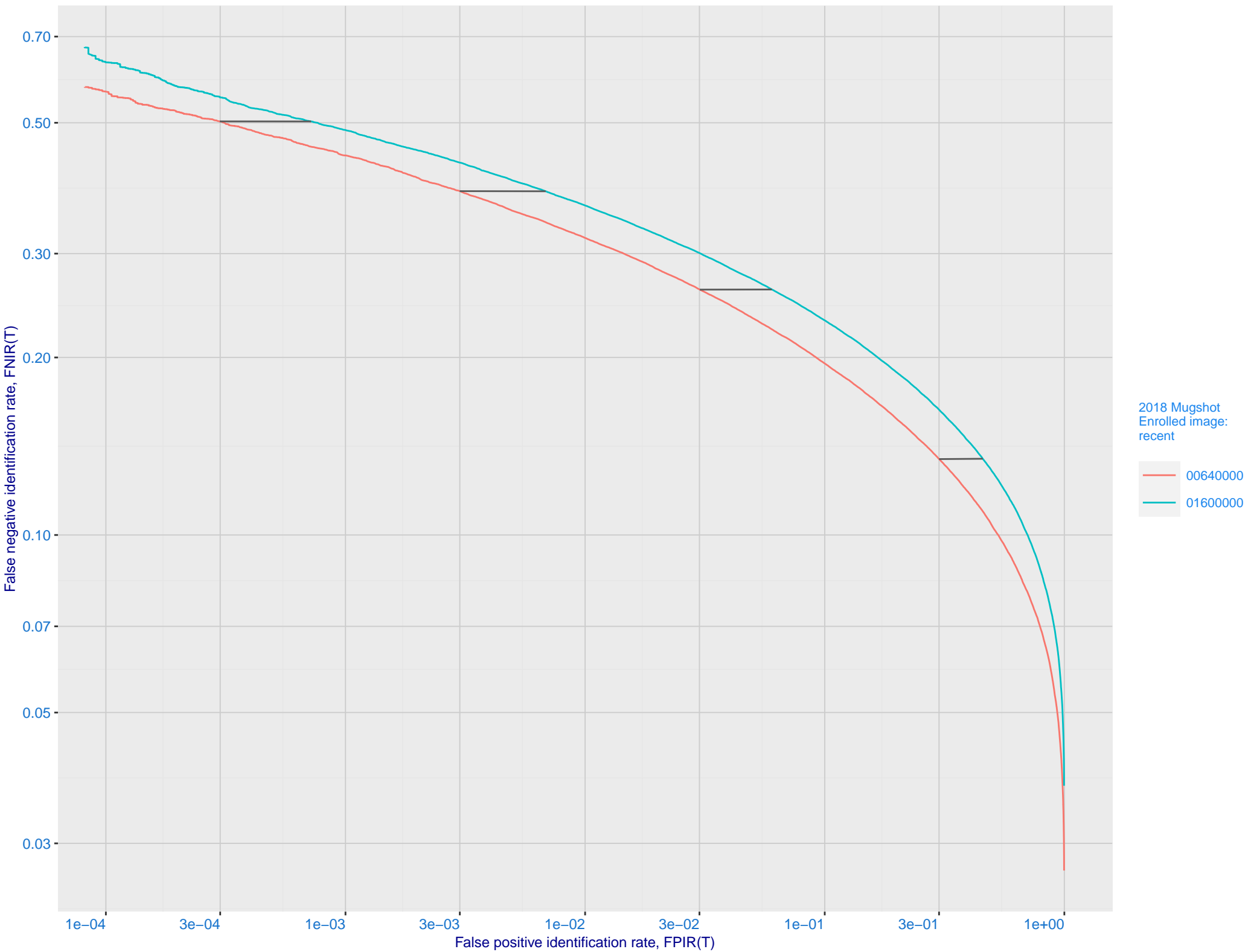
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
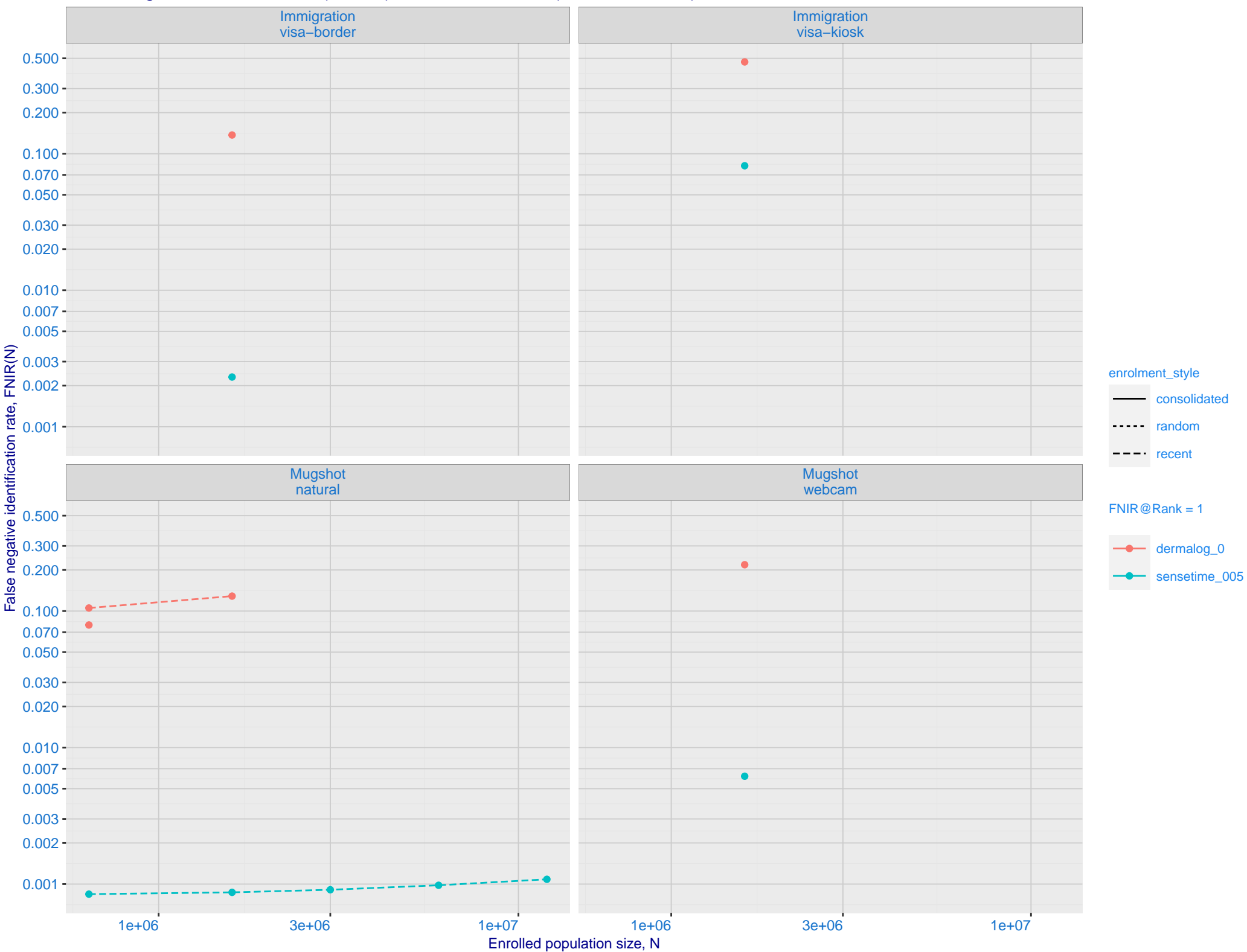
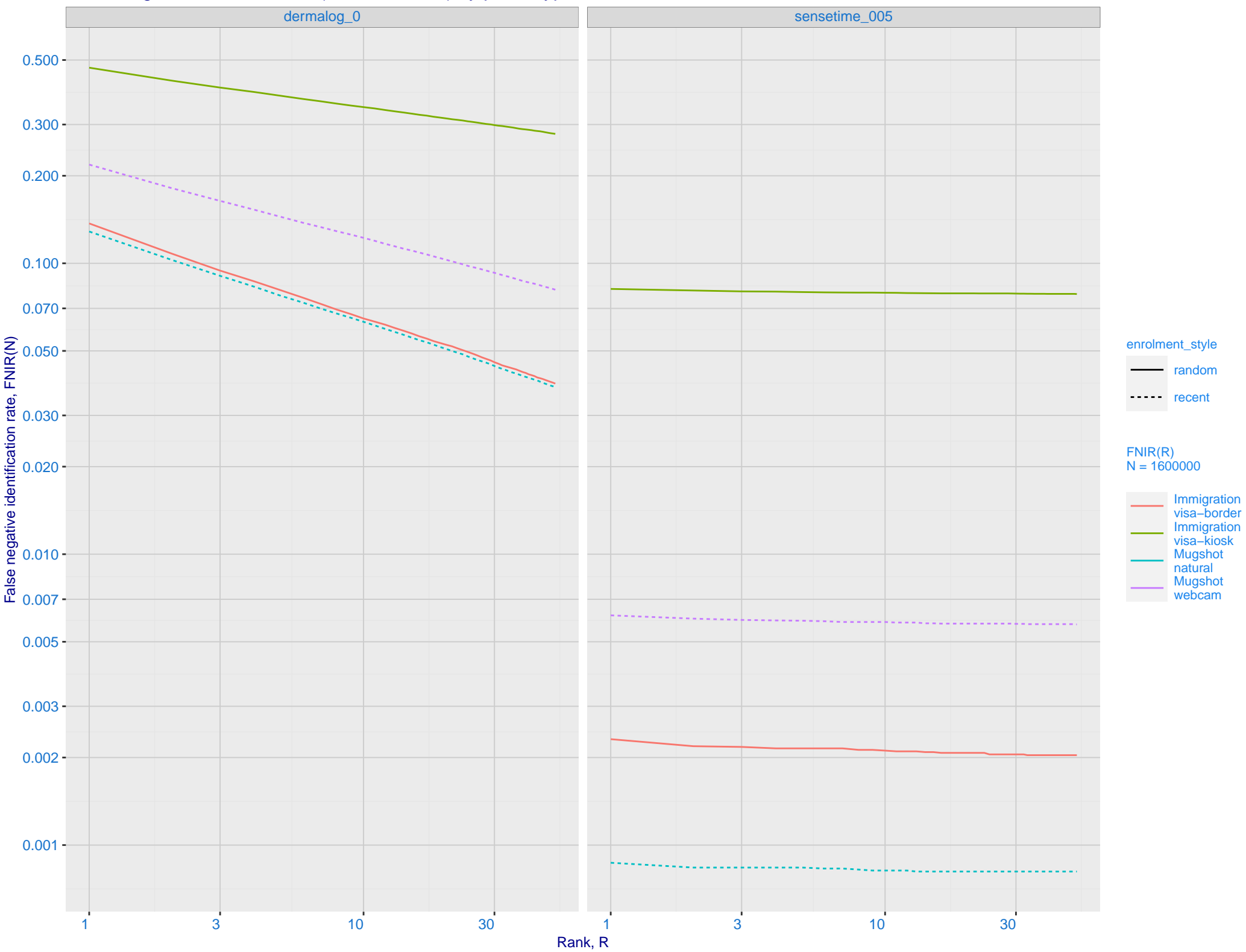G: FPIR dependence on T by probe type for N = 1600000 subjects

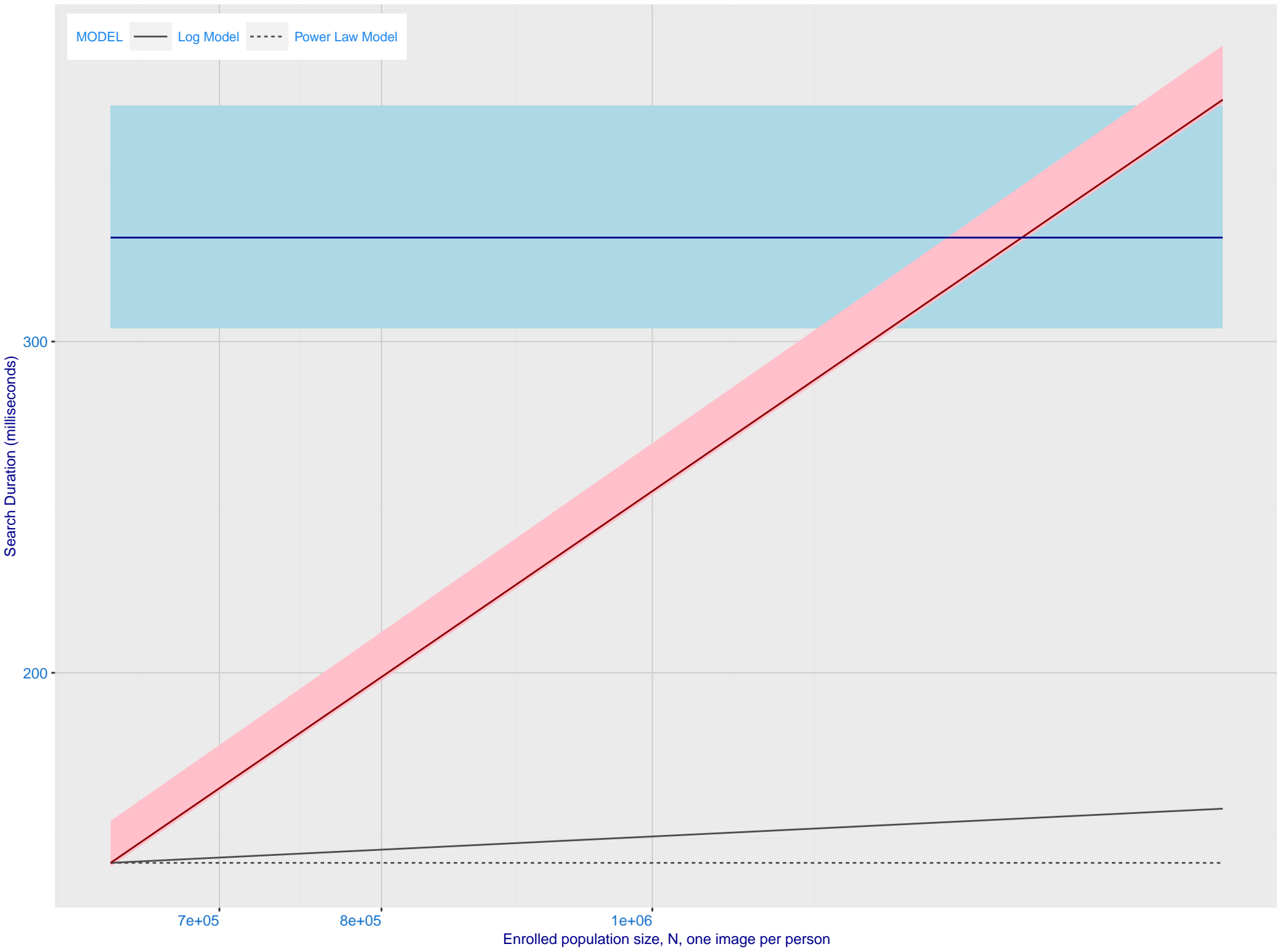J: DET for Mugshot natural images and various N. Links connect points of equal threshold.

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

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

M: 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

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

Dataset: 2018 Mugshot   N = 3068801

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

FPIR | Rank

False negative identification rate (FNIR)

cloudwalk_hr_000

False positive identification rate, FPIR   or   Rank, R