

A: Datasheet

Algorithm: dermalog_007

Developer: Dermalog

Submission Date: 2020_02_12

Template size: 128 bytes

Template time (2.5 percentile): 386 msec

Template time (median): 411 msec

Template time (97.5 percentile): 456 msec

Investigation:

Frontal mugshot ranking 180 (out of 329) -- FNIR(1600000, 0, 1) = 0.0092 vs. lowest 0.0009 from sensetime_006

Mugshot webcam ranking 161 (out of 291) -- FNIR(1600000, 0, 1) = 0.0267 vs. lowest 0.0057 from sensetime_006

Mugshot profile ranking 125 (out of 260) -- FNIR(1600000, 0, 1) = 0.6746 vs. lowest 0.0550 from sensetime_006

Immigration visa-border ranking 127 (out of 218) -- FNIR(1600000, 0, 1) = 0.0143 vs. lowest 0.0009 from sensetime_006

Immigration visa-kiosk ranking 129 (out of 215) -- FNIR(1600000, 0, 1) = 0.1696 vs. lowest 0.0487 from cubox_000

Identification:

Frontal mugshot ranking 179 (out of 329) -- FNIR(1600000, T, L+1) = 0.0863, FPIR=0.001000 vs. lowest 0.0017 from nec_005

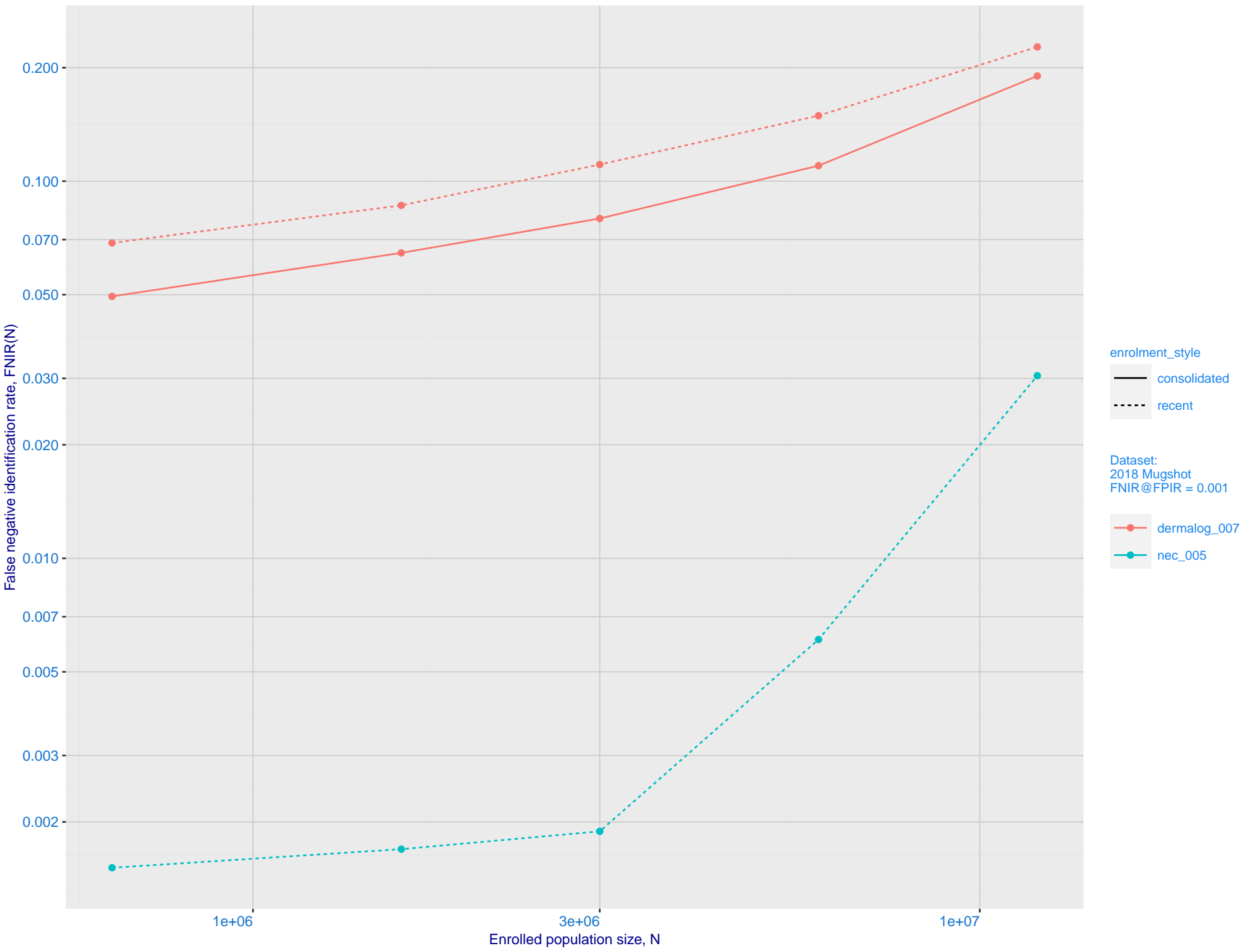
Mugshot webcam ranking 162 (out of 289) -- FNIR(1600000, T, L+1) = 0.1524, FPIR=0.001000 vs. lowest 0.0120 from nec_005

Mugshot profile ranking 110 (out of 259) -- FNIR(1600000, T, L+1) = 0.9902, FPIR=0.001000 vs. lowest 0.1331 from cloudwalk_hr_000

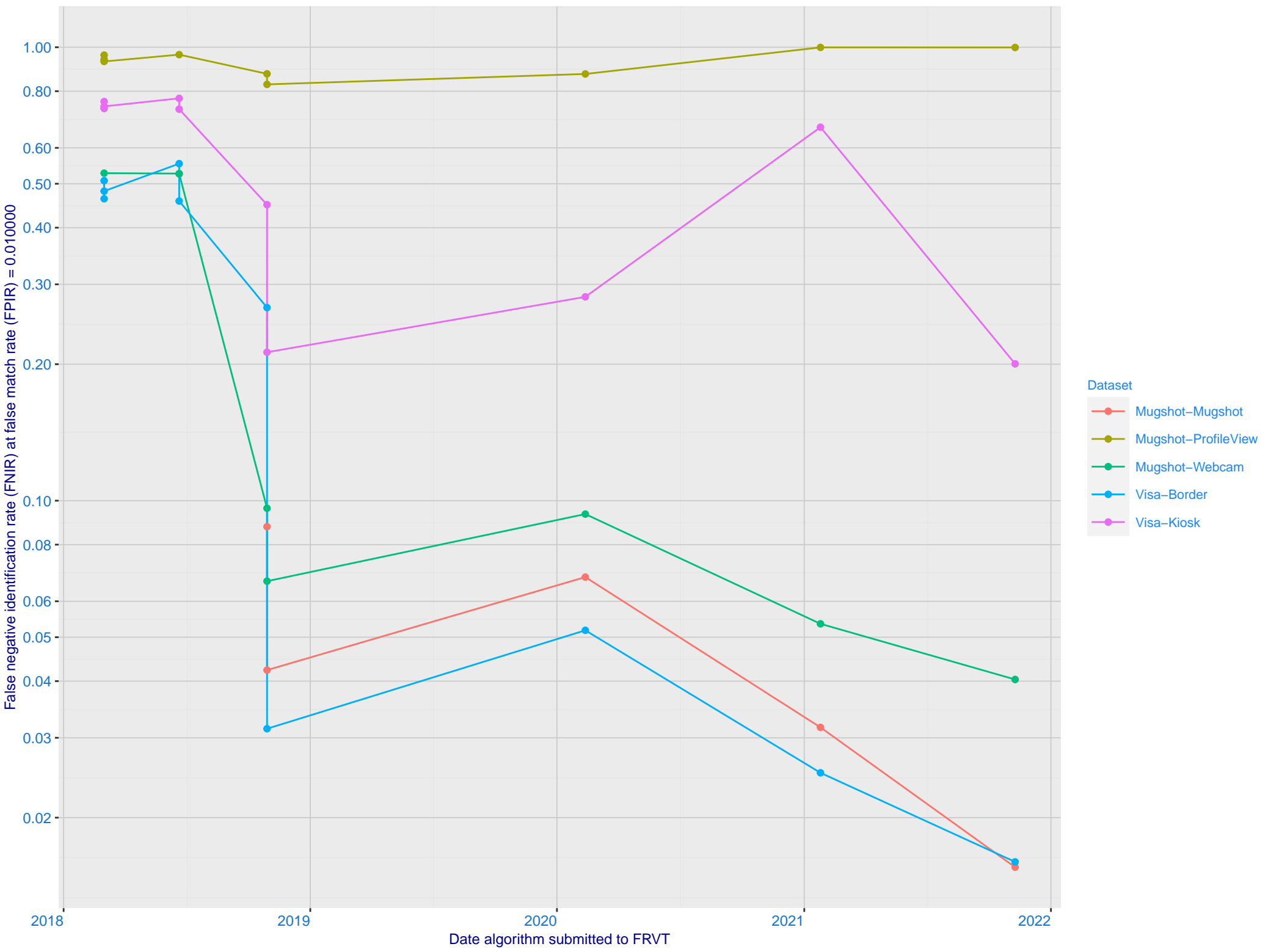
Immigration visa-border ranking 123 (out of 217) -- FNIR(1600000, T, L+1) = 0.0989, FPIR=0.001000 vs. lowest 0.0032 from paravision_009

Immigration visa-kiosk ranking 120 (out of 212) -- FNIR(1600000, T, L+1) = 0.5590, FPIR=0.001000 vs. lowest 0.0728 from paravision_009

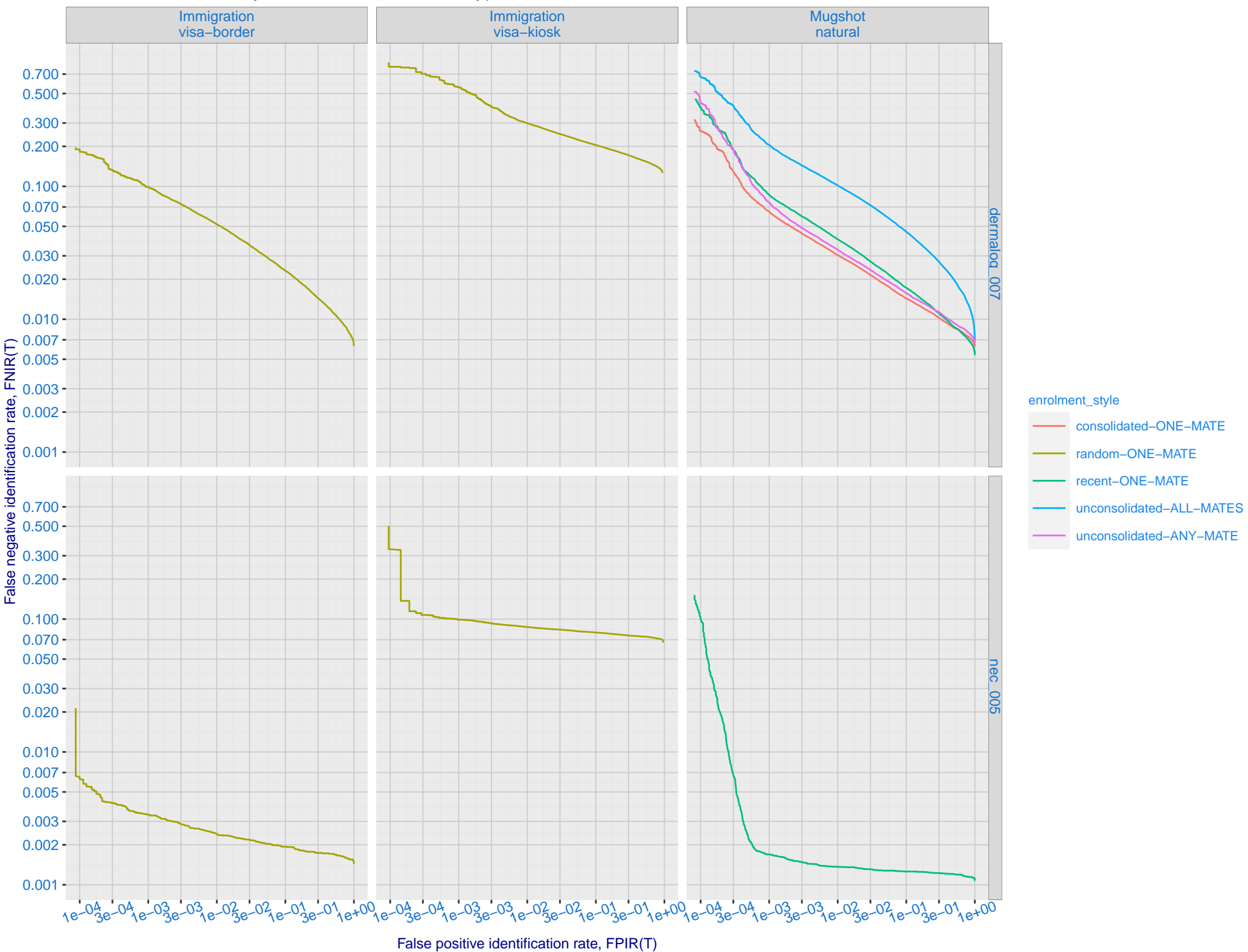
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (nec_005)



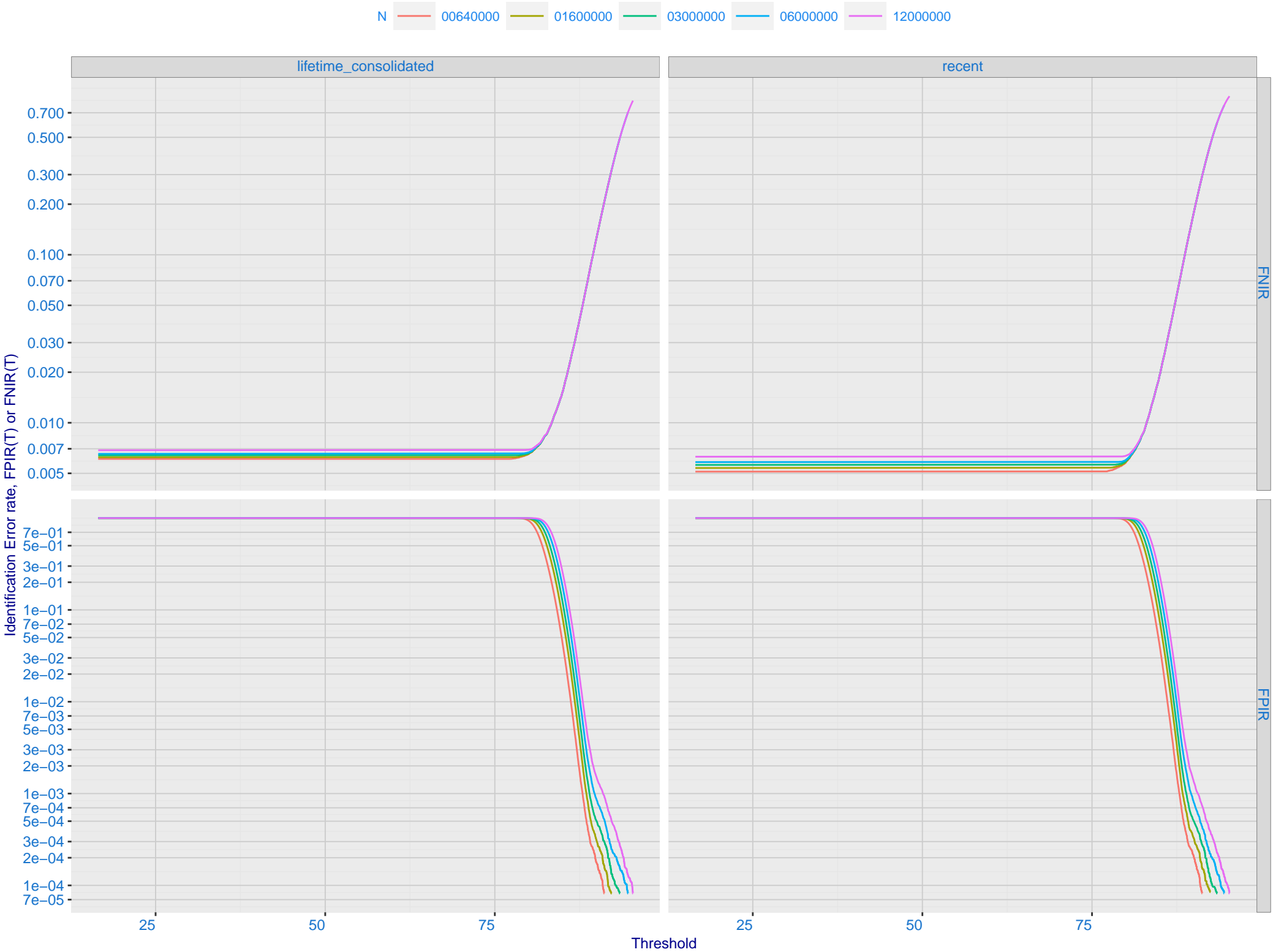
C: Evolution of accuracy for DERMALOG algorithms on three datasets 2018 – present



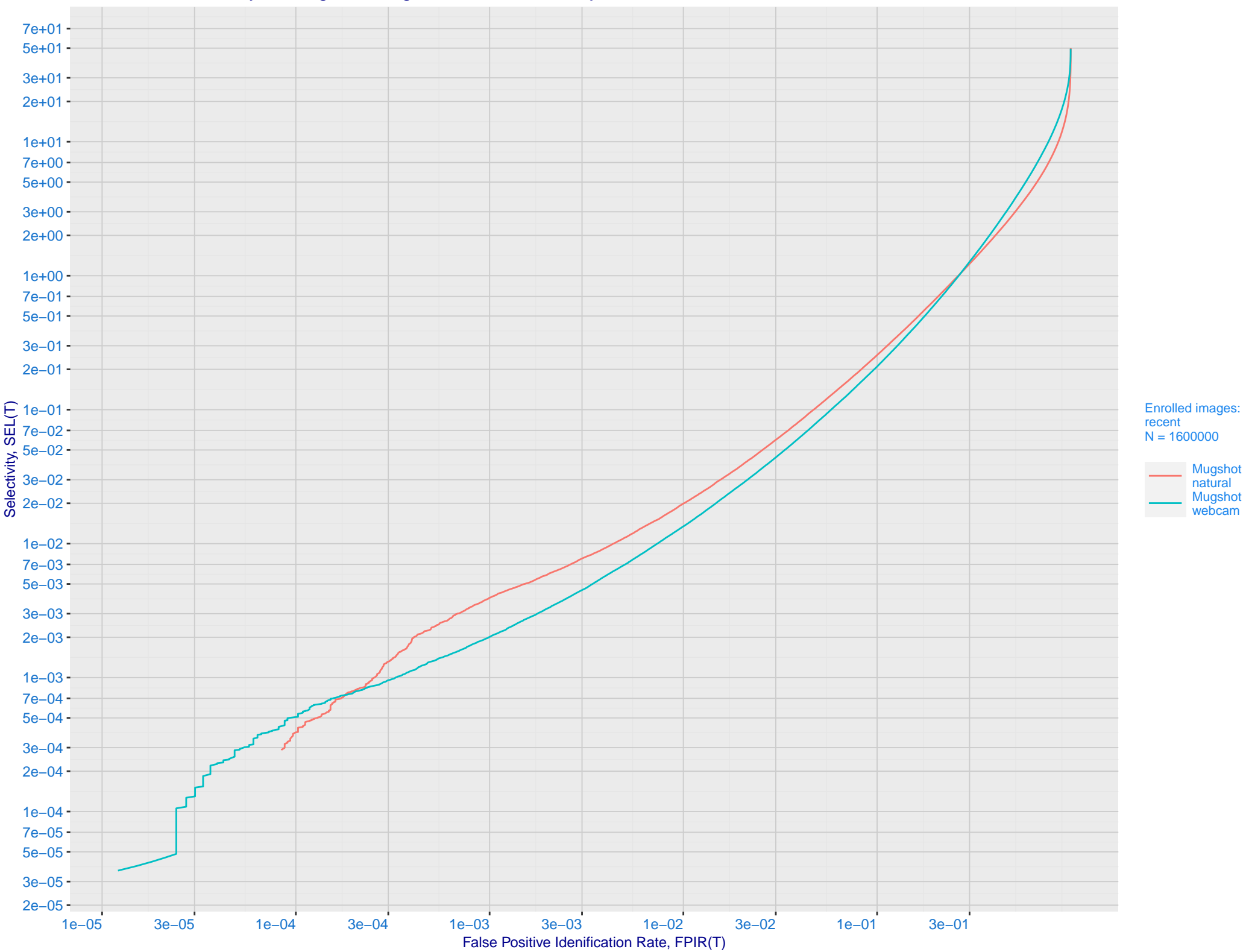
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



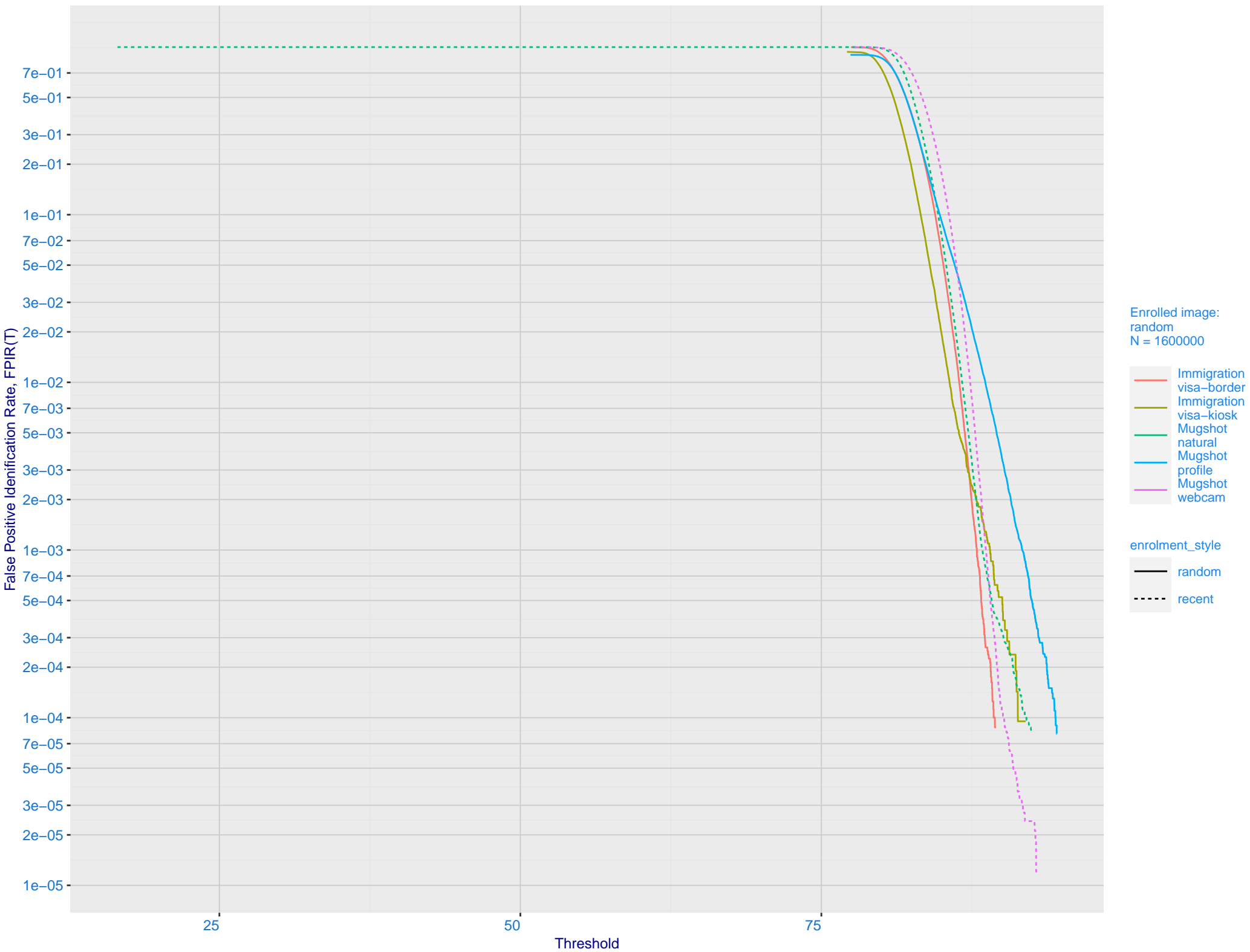
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



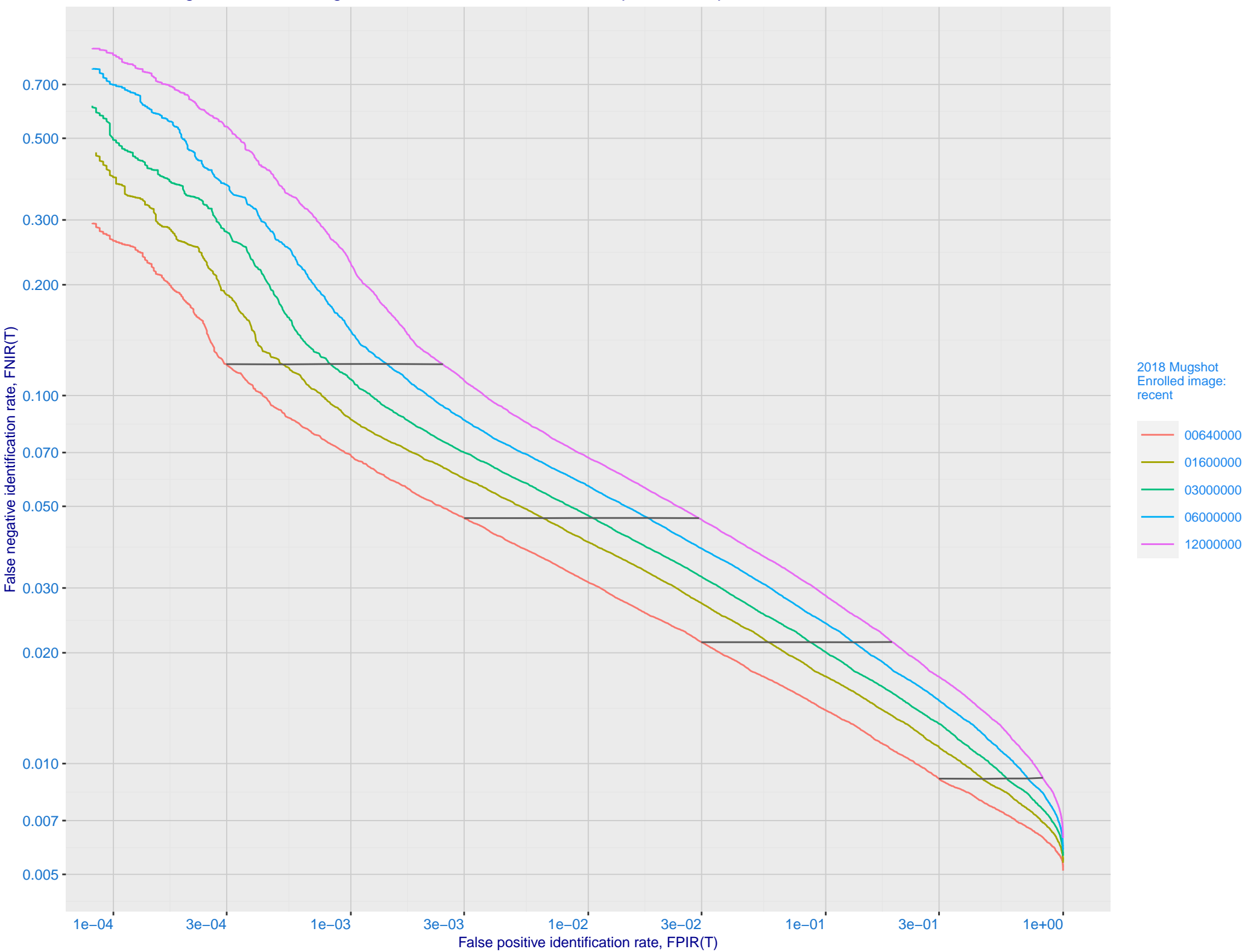
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



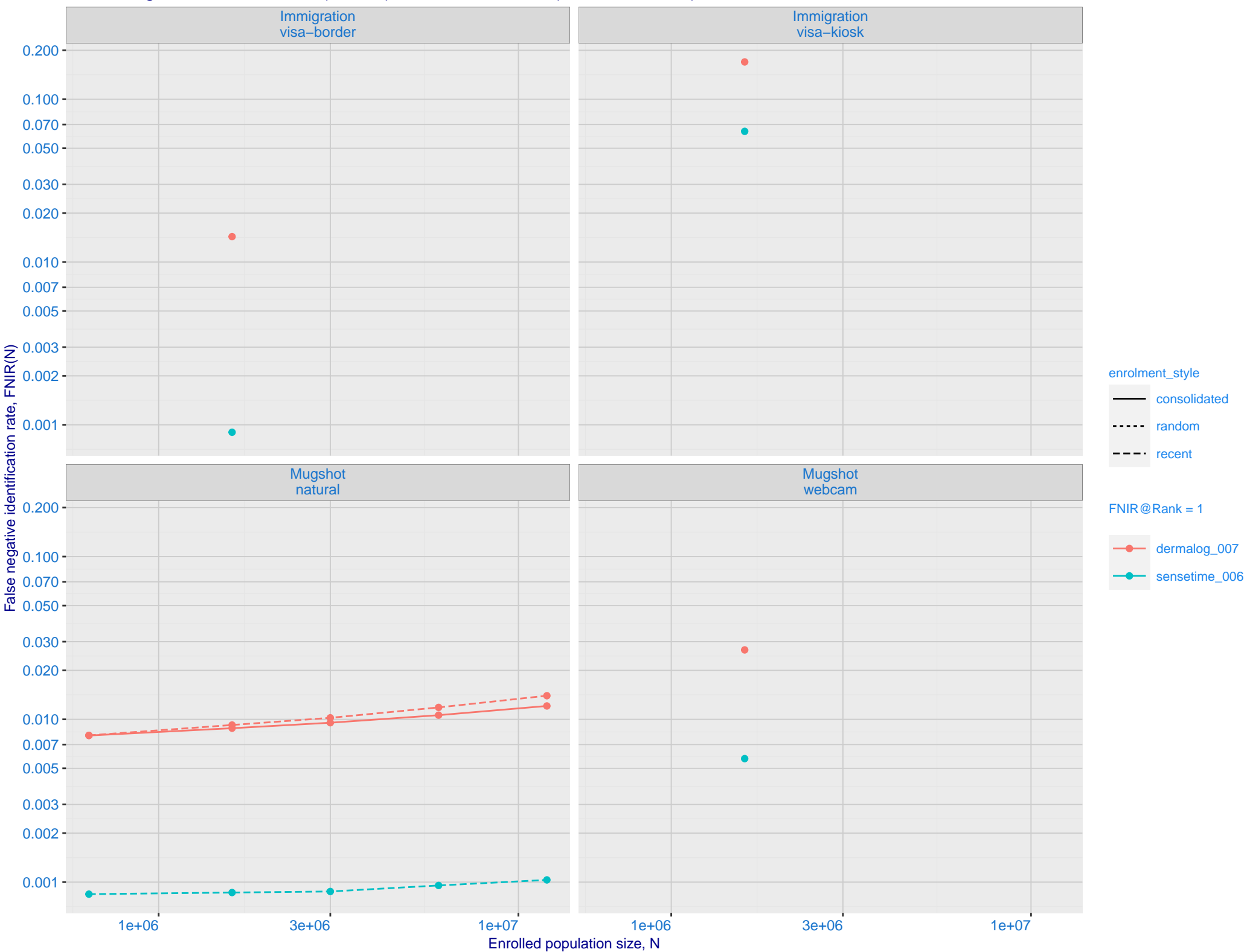
G: FPIR dependence on T by probe type for N = 1600000 subjects



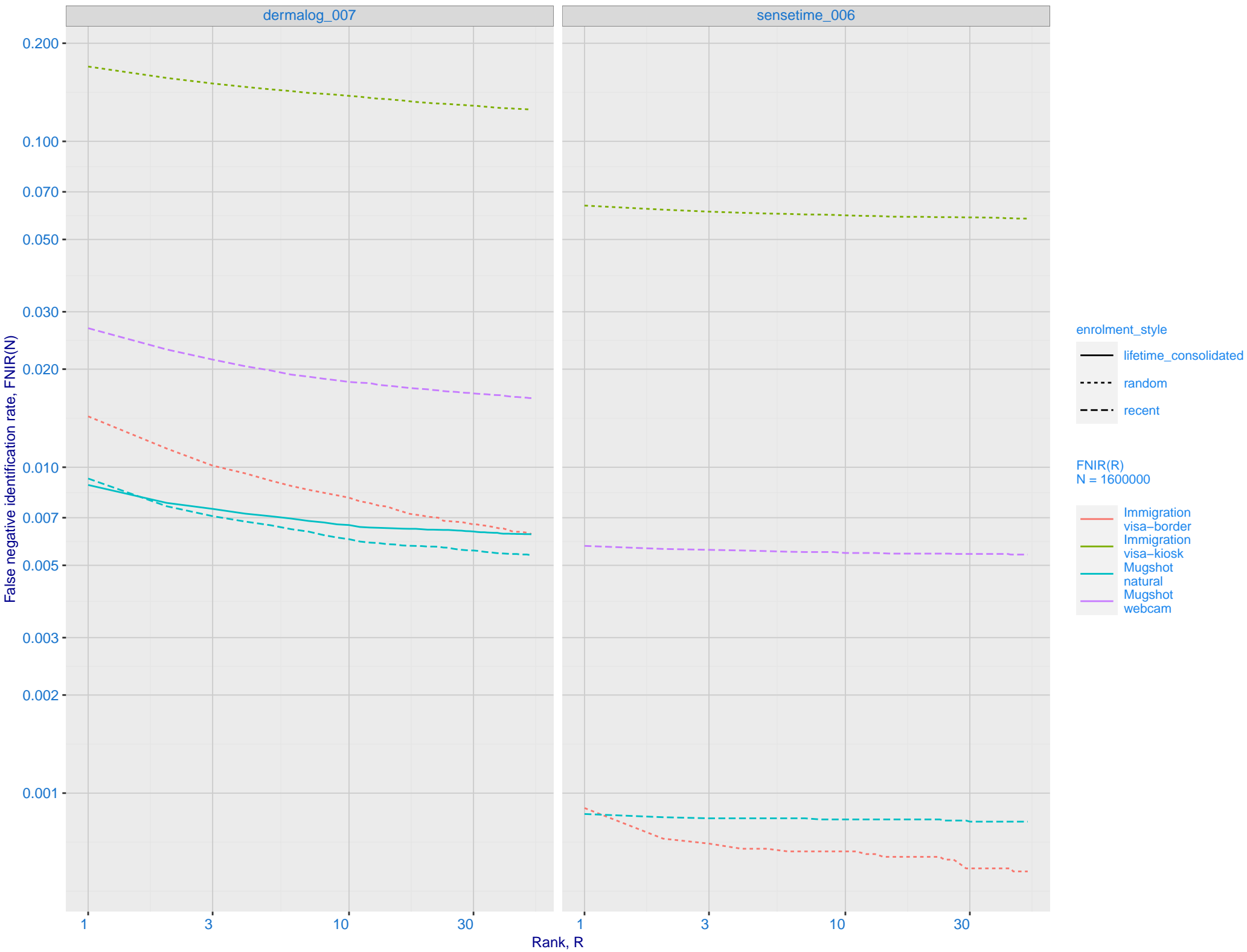
J: DET for Mugshot natural images and various N. Links connect points of equal threshold.



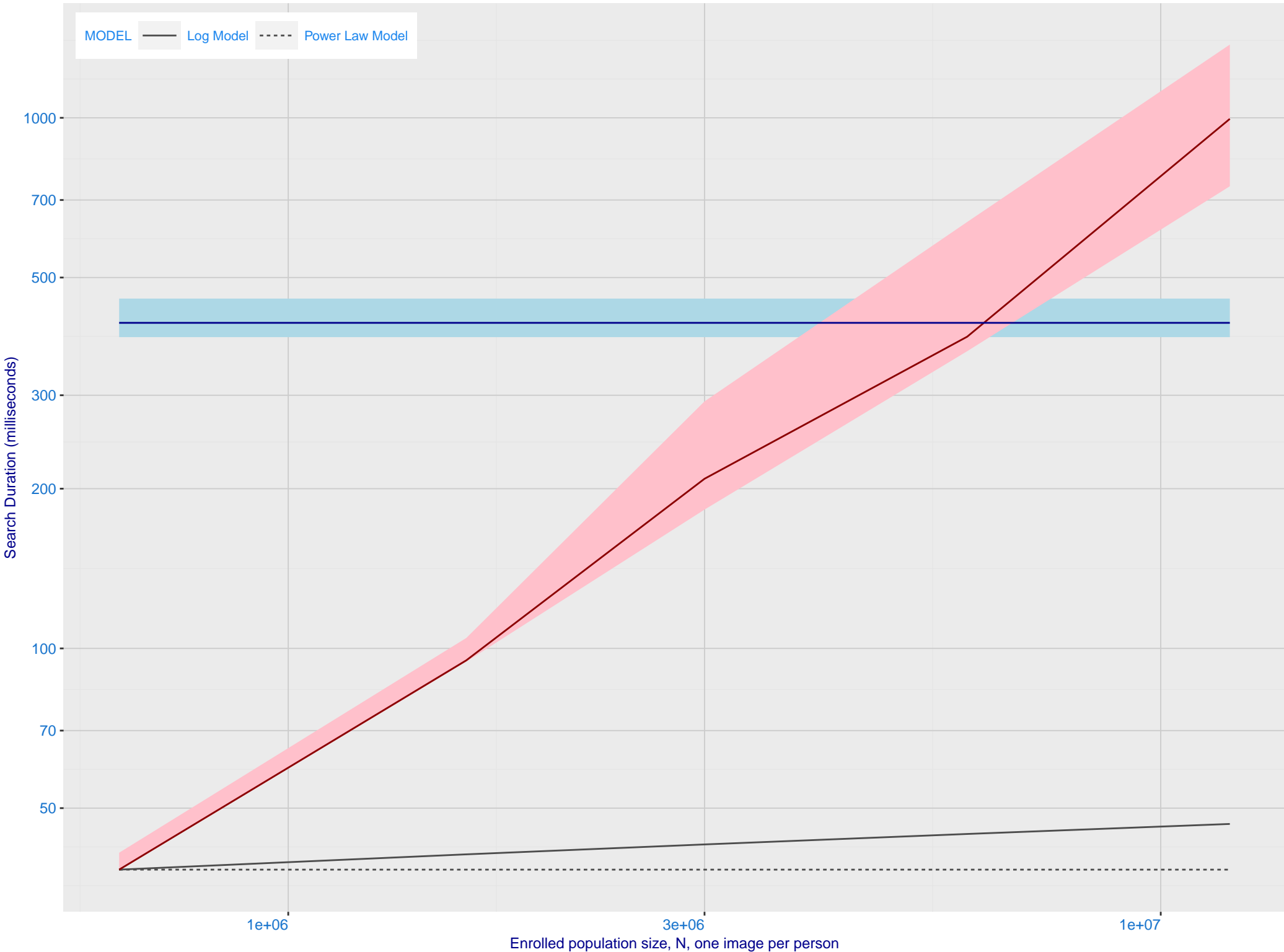
K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_006)



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

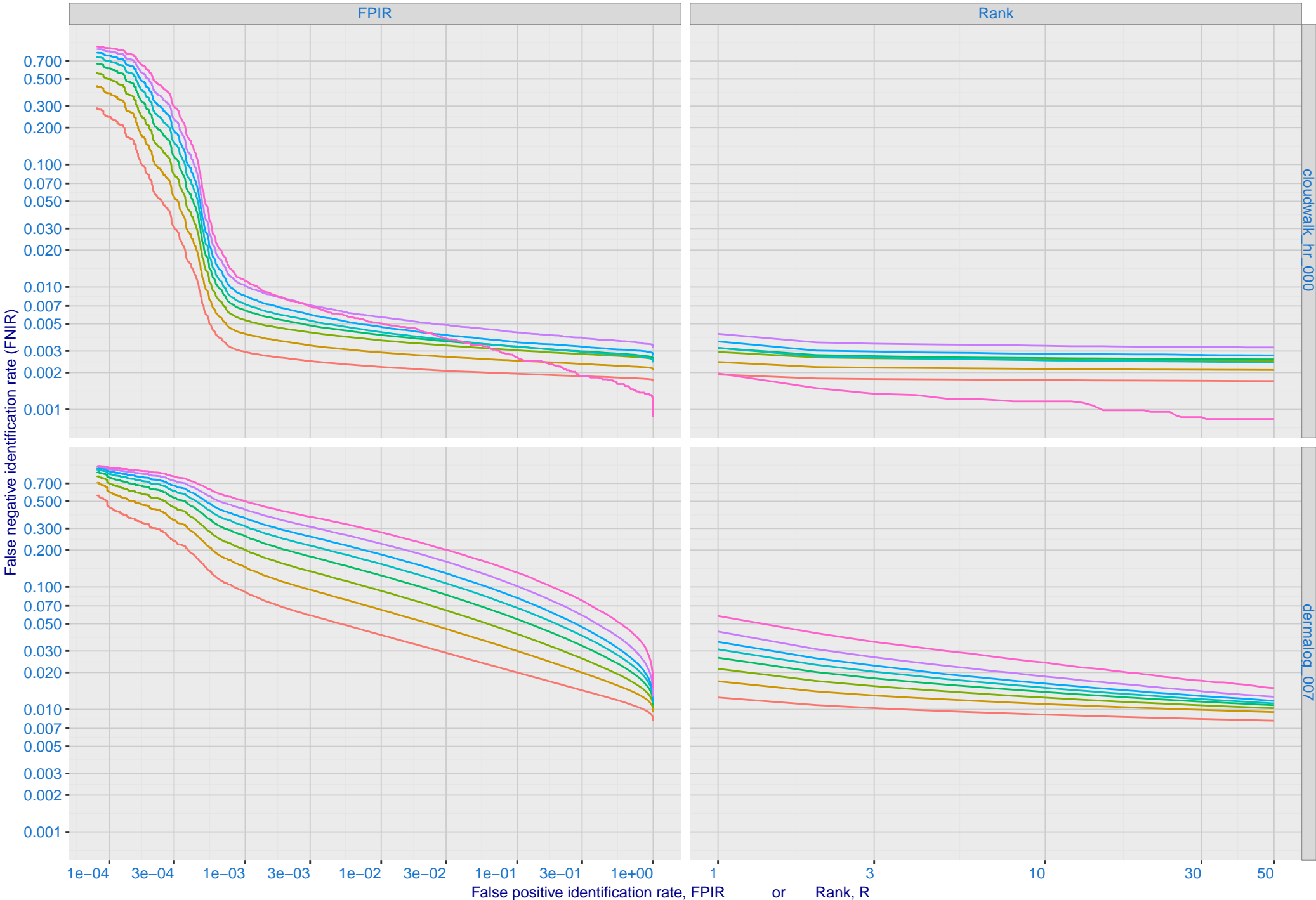


M: Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



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

Dataset: 2018 Mugshot N = 3068801



R: Decline of genuine scores with ageing, with some eventually dropping below typical thresholds shown by the horizontal lines

