

A: Datasheet

Algorithm: realnetworks_004

Developer: Realnetworks Inc

Submission Date: 2019_10_17

Template size: 1848 bytes

Template time (2.5 percentile): 168 msec

Template time (median): 172 msec

Template time (97.5 percentile): 254 msec

Investigation:

Frontal mugshot ranking 172 (out of 265) — FNIR(1600000, 0, 1) = 0.0236 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 154 (out of 227) — FNIR(1600000, 0, 1) = 0.0593 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 94 (out of 196) — FNIR(1600000, 0, 1) = 0.7966 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 83 (out of 148) — FNIR(1600000, 0, 1) = 0.0310 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 84 (out of 145) — FNIR(1600000, 0, 1) = 0.2134 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 160 (out of 265) — FNIR(1600000, T, L+1) = 0.1580, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

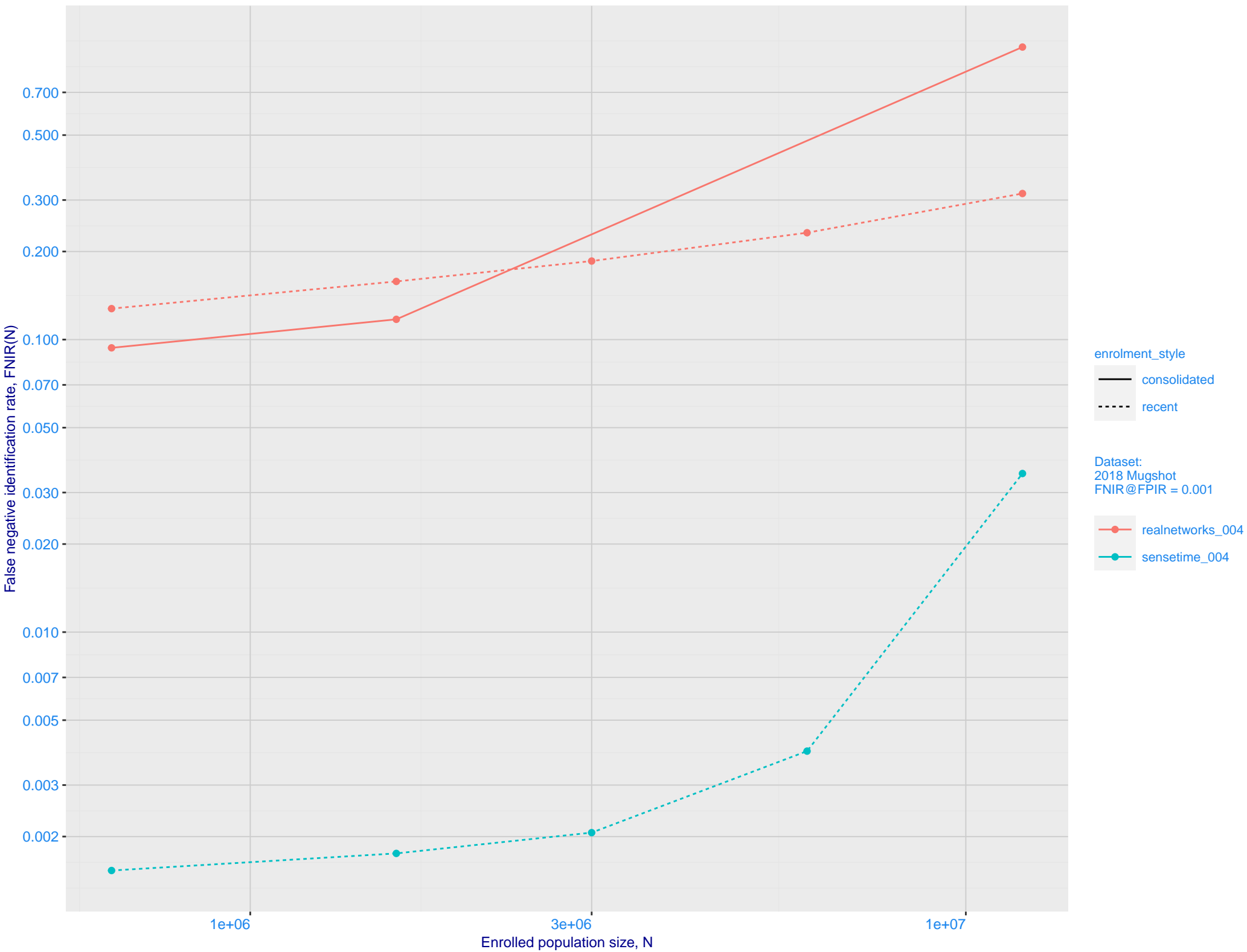
Mugshot webcam ranking 147 (out of 225) — FNIR(1600000, T, L+1) = 0.2627, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 138 (out of 195) — FNIR(1600000, T, L+1) = 0.9993, FPIR=0.001000 vs. lowest 0.1331 from hr_000

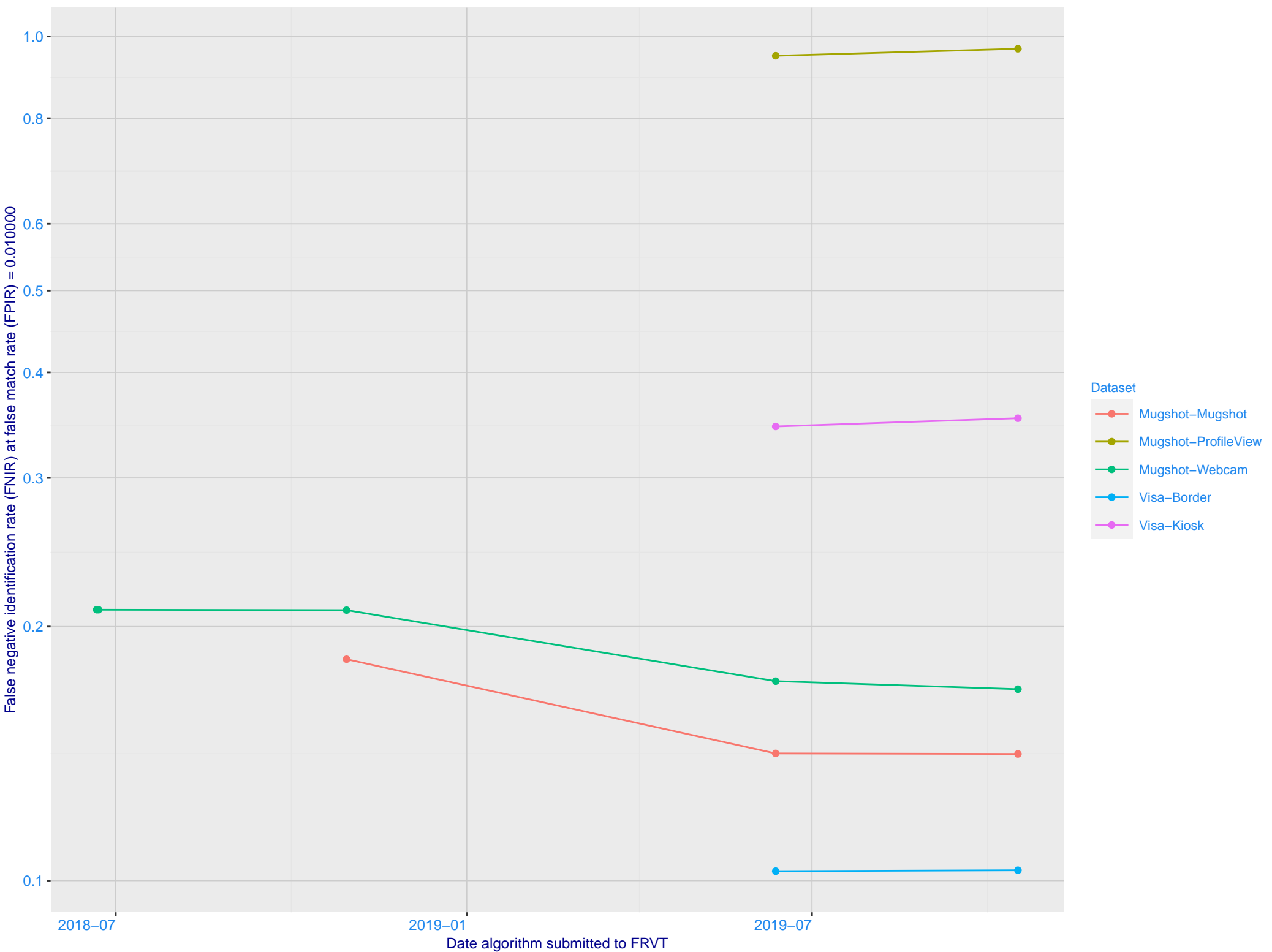
Immigration visa–border ranking 82 (out of 146) — FNIR(1600000, T, L+1) = 0.1703, FPIR=0.001000 vs. lowest 0.0049 from hr_000

Immigration visa–kiosk ranking 75 (out of 141) — FNIR(1600000, T, L+1) = 0.6202, FPIR=0.001000 vs. lowest 0.0996 from hr_000

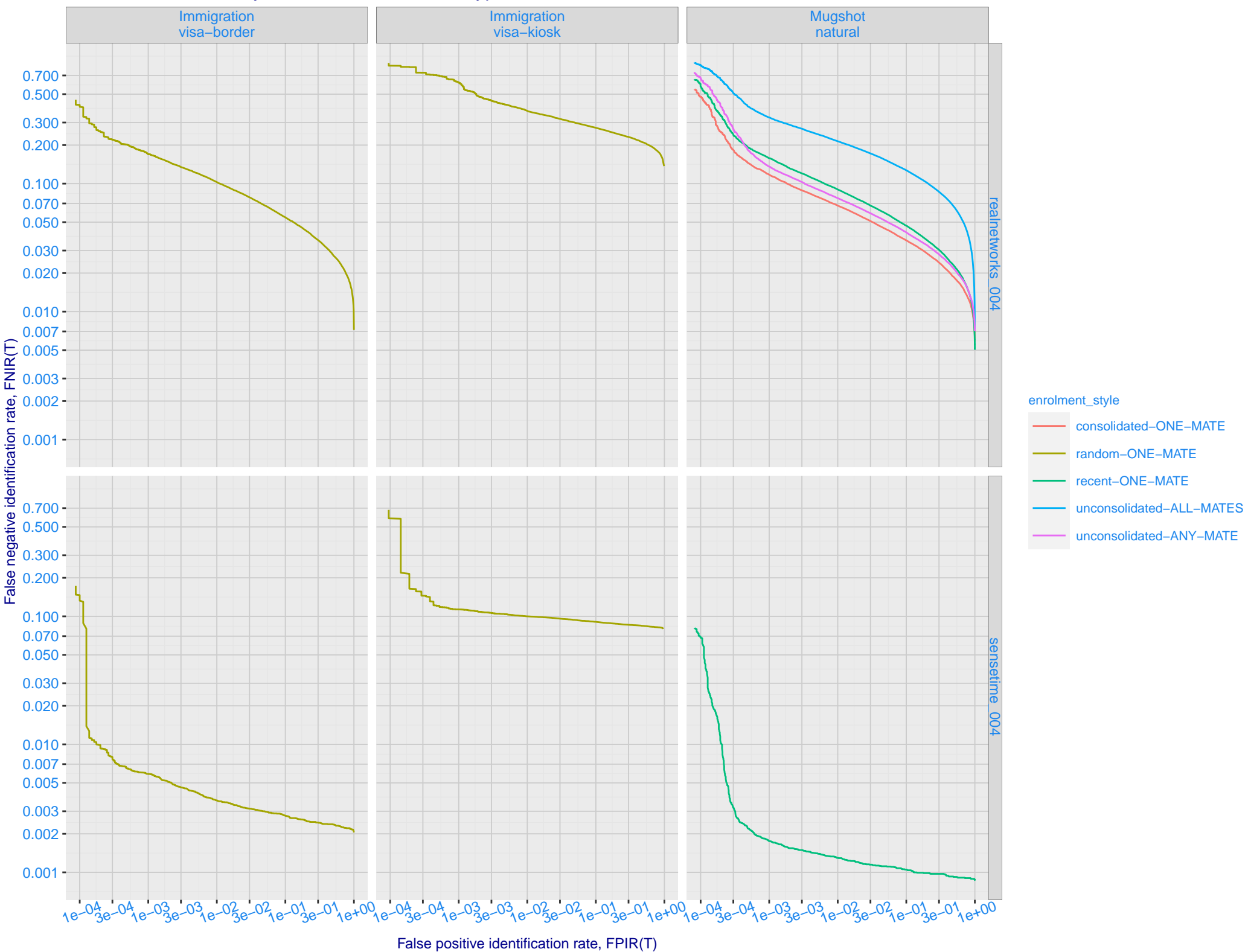
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)



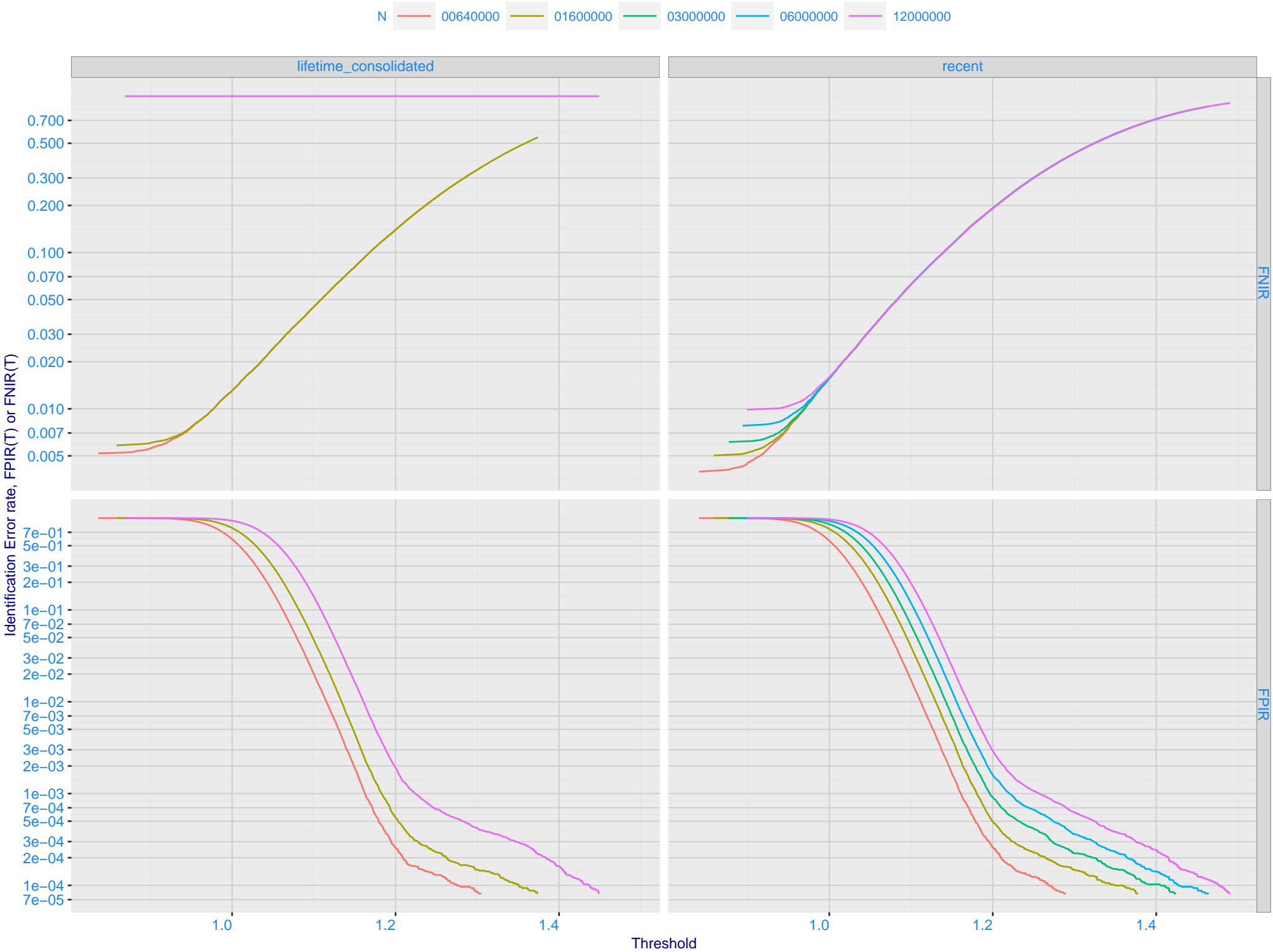
C: Evolution of accuracy for REALNETWORKS algorithms on three datasets 2018 – present



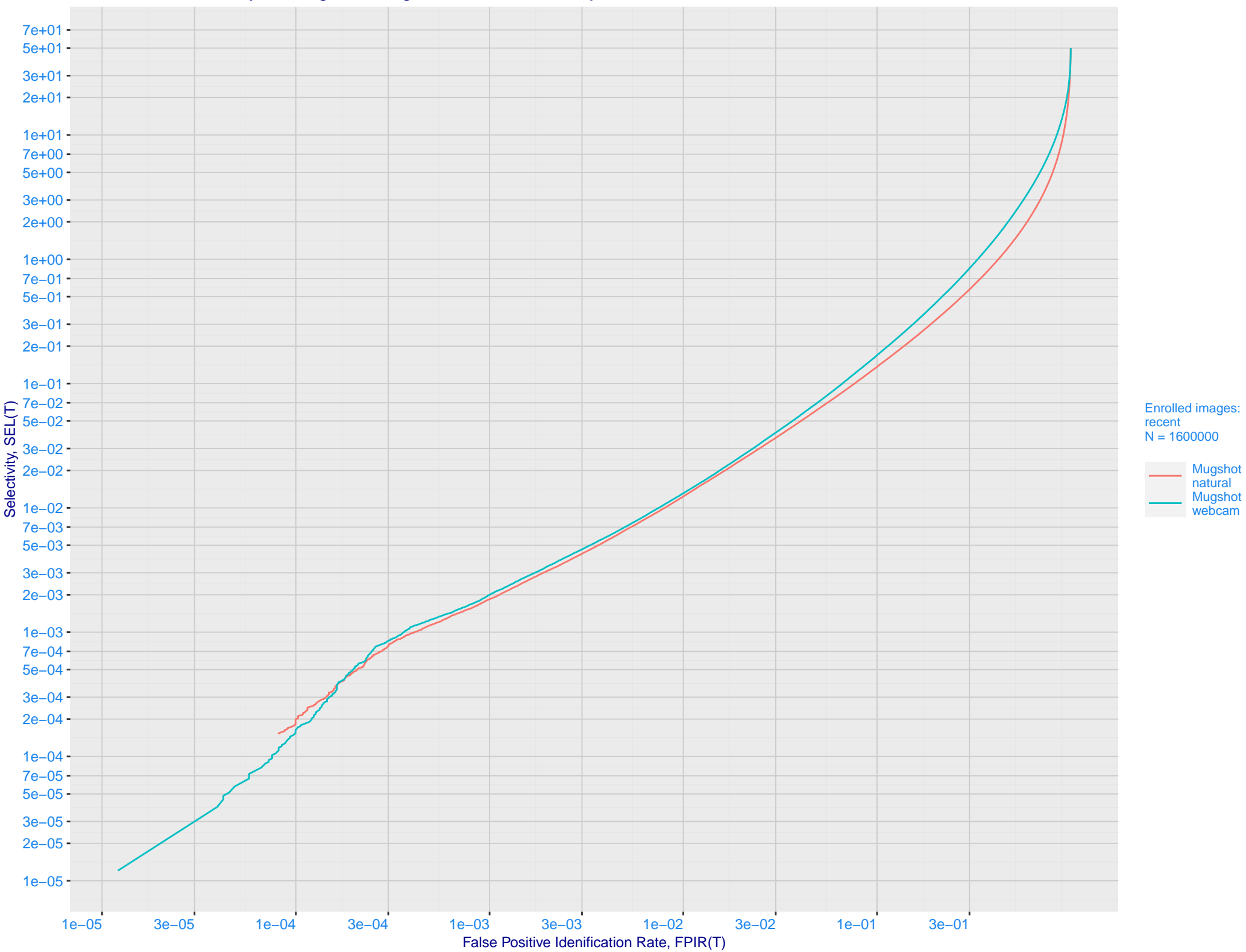
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



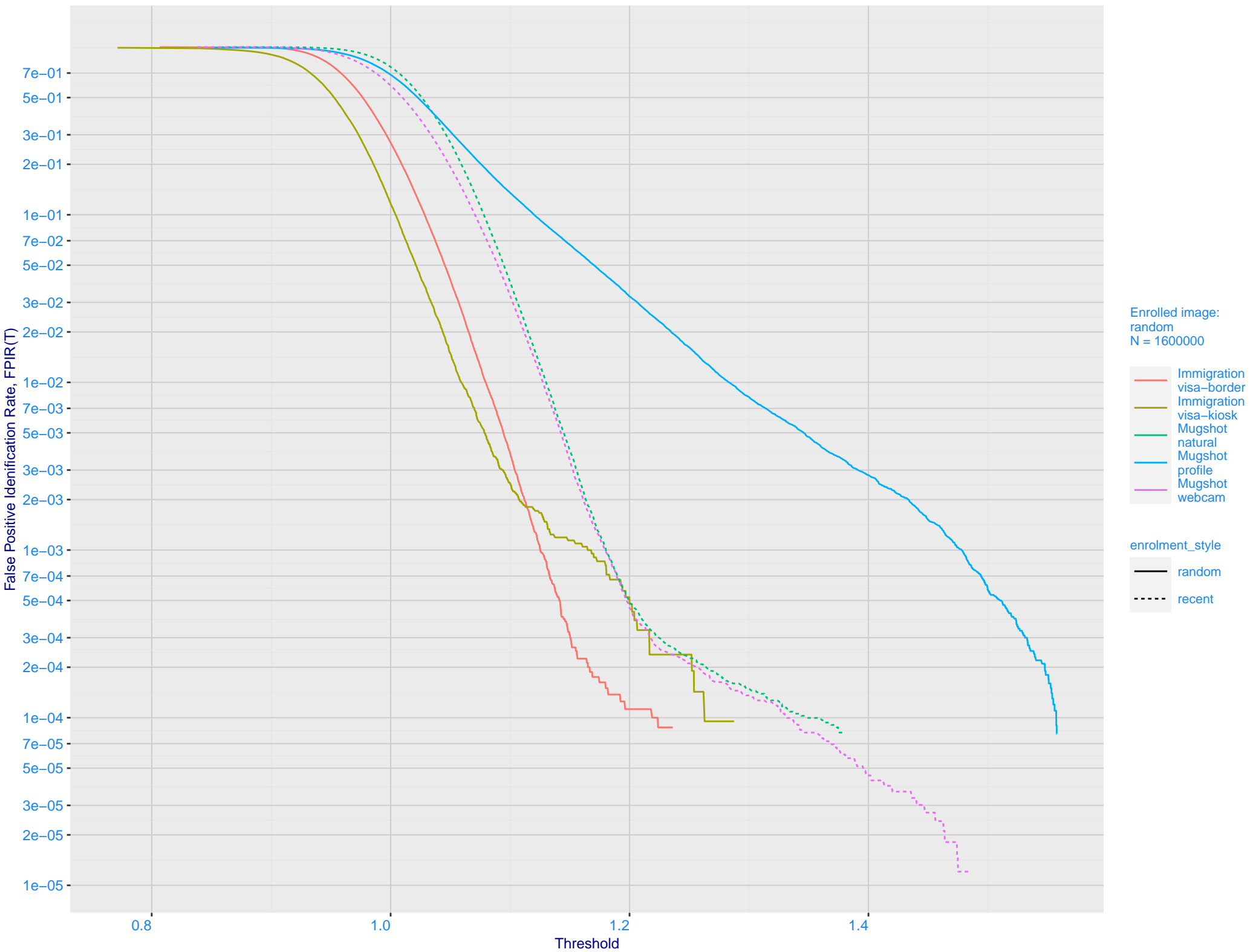
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



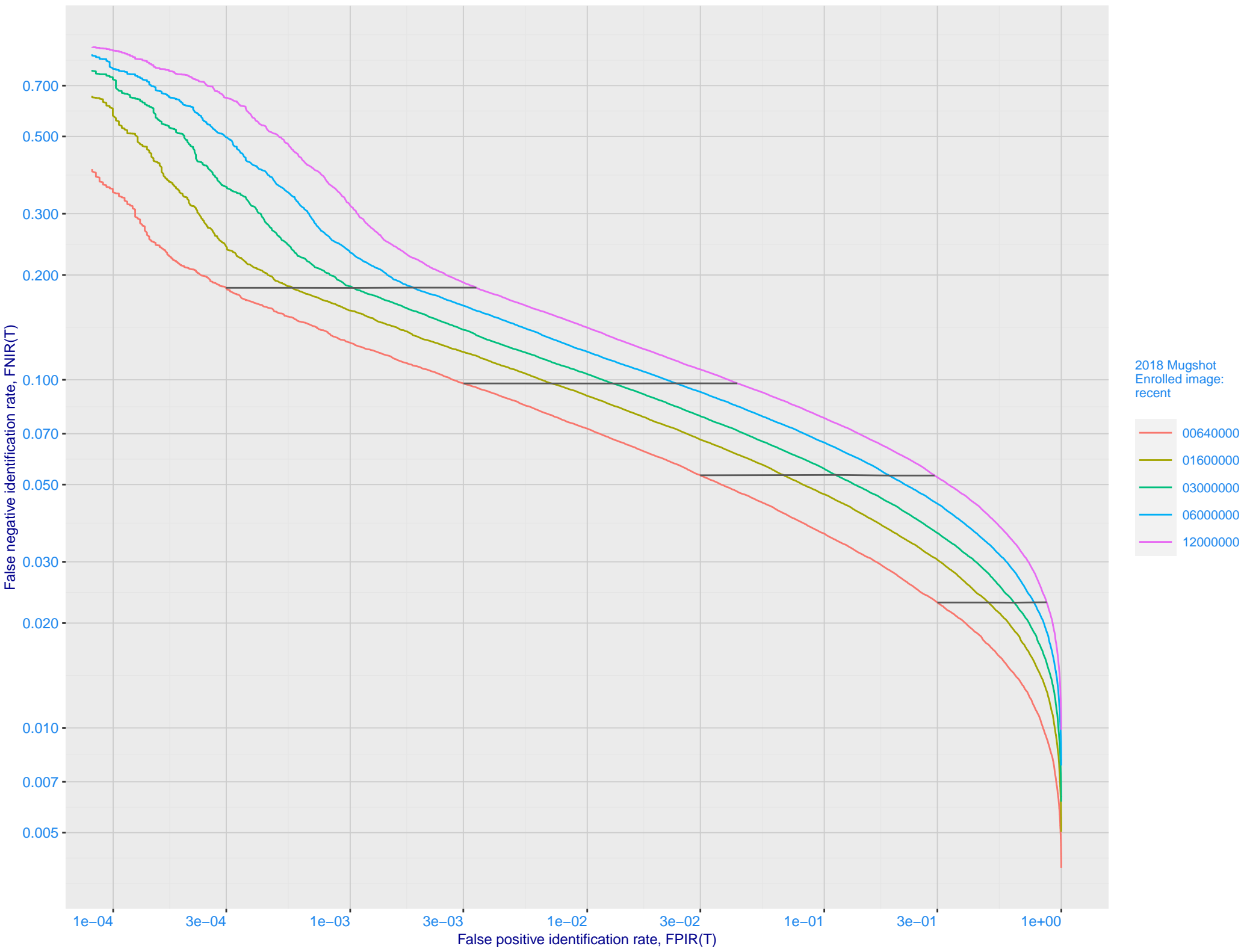
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



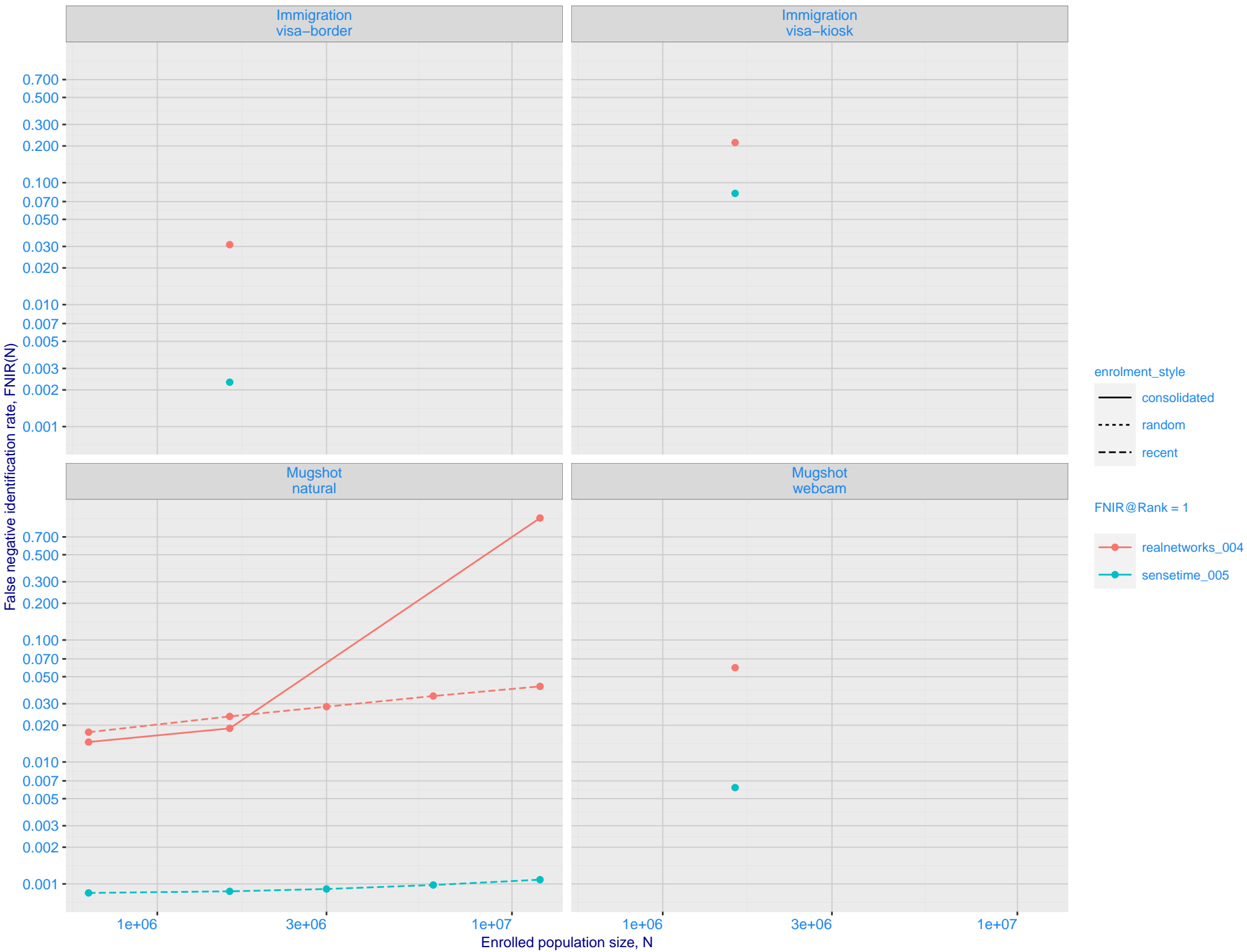
G: FPIR dependence on T by probe type for N = 1600000 subjects



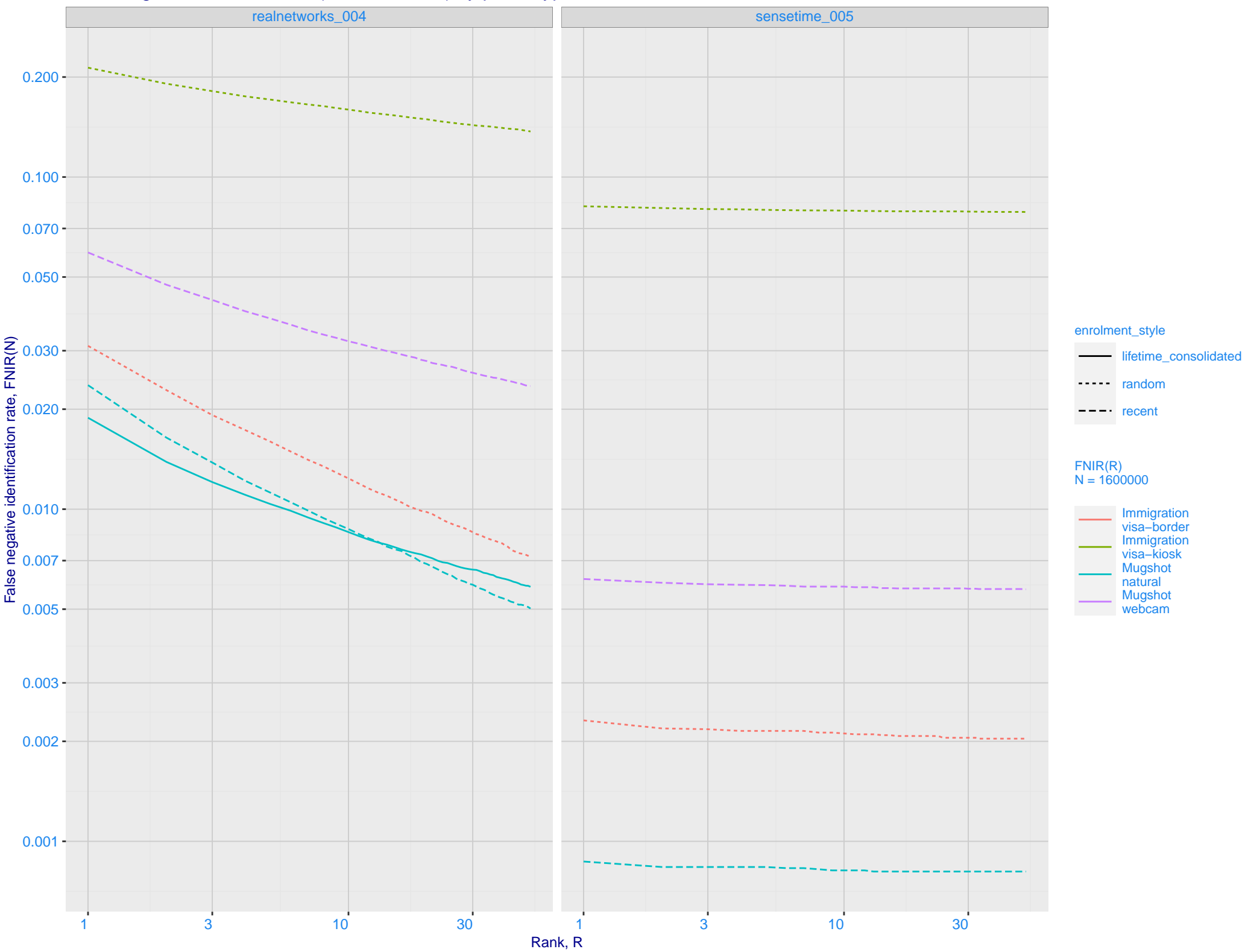
H: DET for Mugshot natural images and various N. Links connect points of equal threshold.



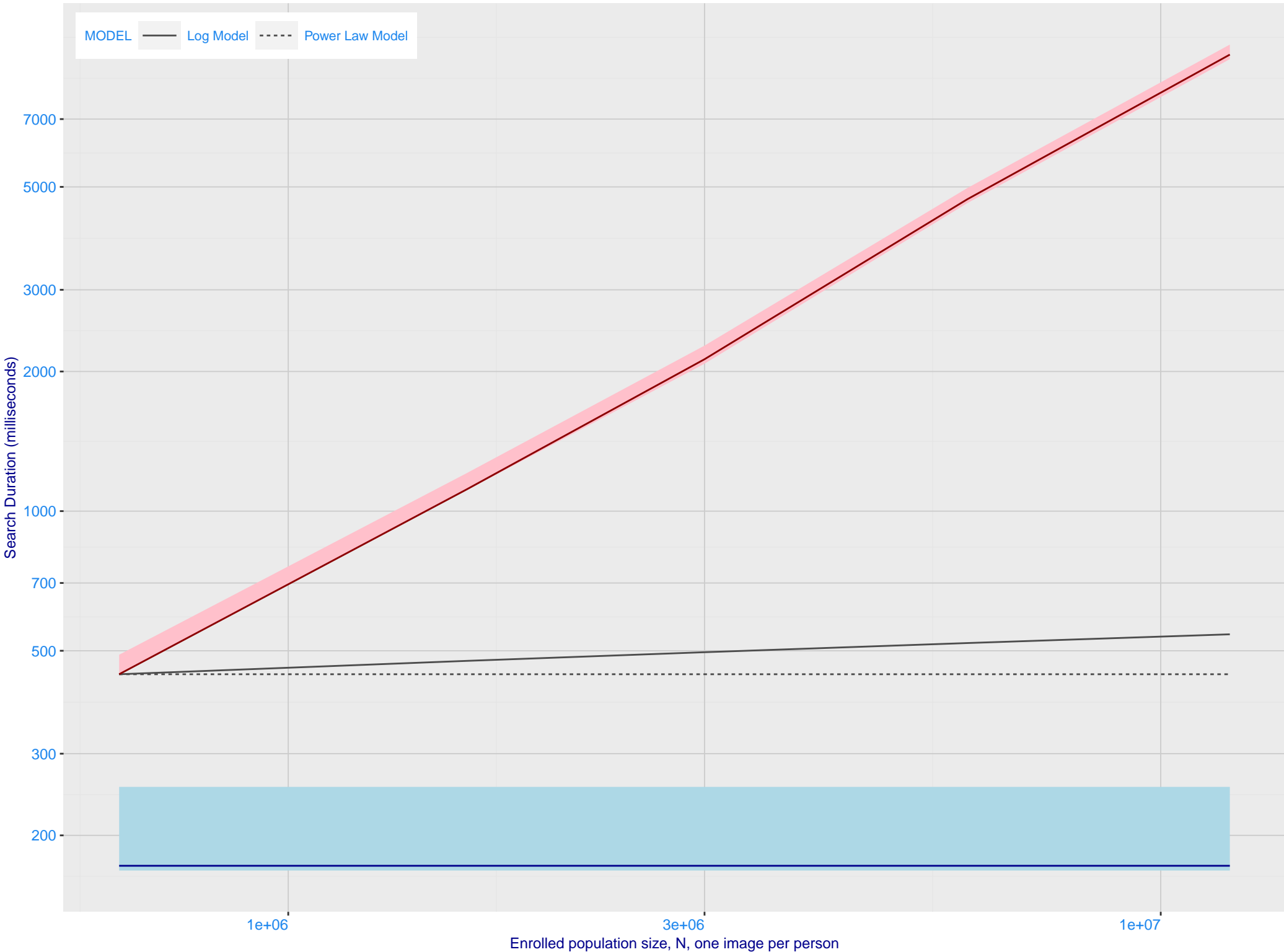
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)



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

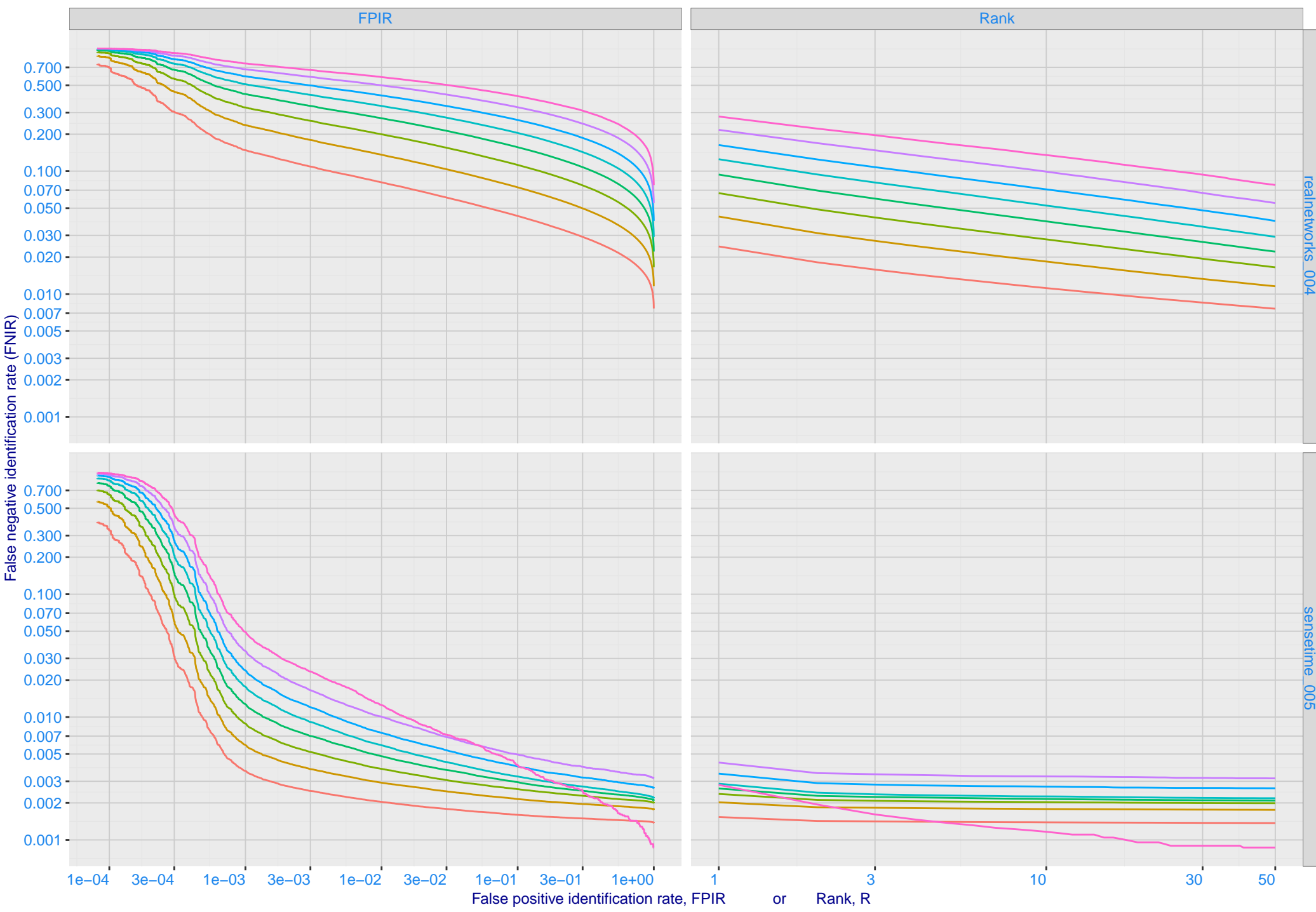
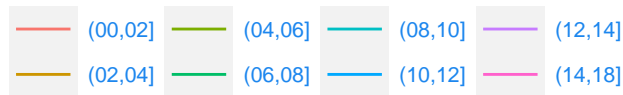


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



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

Dataset: 2018 Mugshot N = 3068801



N: Decline of genuine scores with ageing

