

A: Datasheet

Algorithm: microsoft_6

Developer: Microsoft

Submission Date: 2018_10_29

Template size: 1024 bytes

Template time (2.5 percentile): 649 msec

Template time (median): 672 msec

Template time (97.5 percentile): 978 msec

Investigation:

Frontal mugshot ranking 29 (out of 265) — FNIR(1600000, 0, 1) = 0.0020 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 23 (out of 227) — FNIR(1600000, 0, 1) = 0.0114 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 16 (out of 196) — FNIR(1600000, 0, 1) = 0.1503 vs. lowest 0.0591 from sensetime_005

Immigration visa–border ranking 24 (out of 148) — FNIR(1600000, 0, 1) = 0.0037 vs. lowest 0.0013 from visionlabs_010

Immigration visa–kiosk ranking 26 (out of 145) — FNIR(1600000, 0, 1) = 0.1004 vs. lowest 0.0568 from hr_000

Identification:

Frontal mugshot ranking 18 (out of 265) — FNIR(1600000, T, L+1) = 0.0120, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

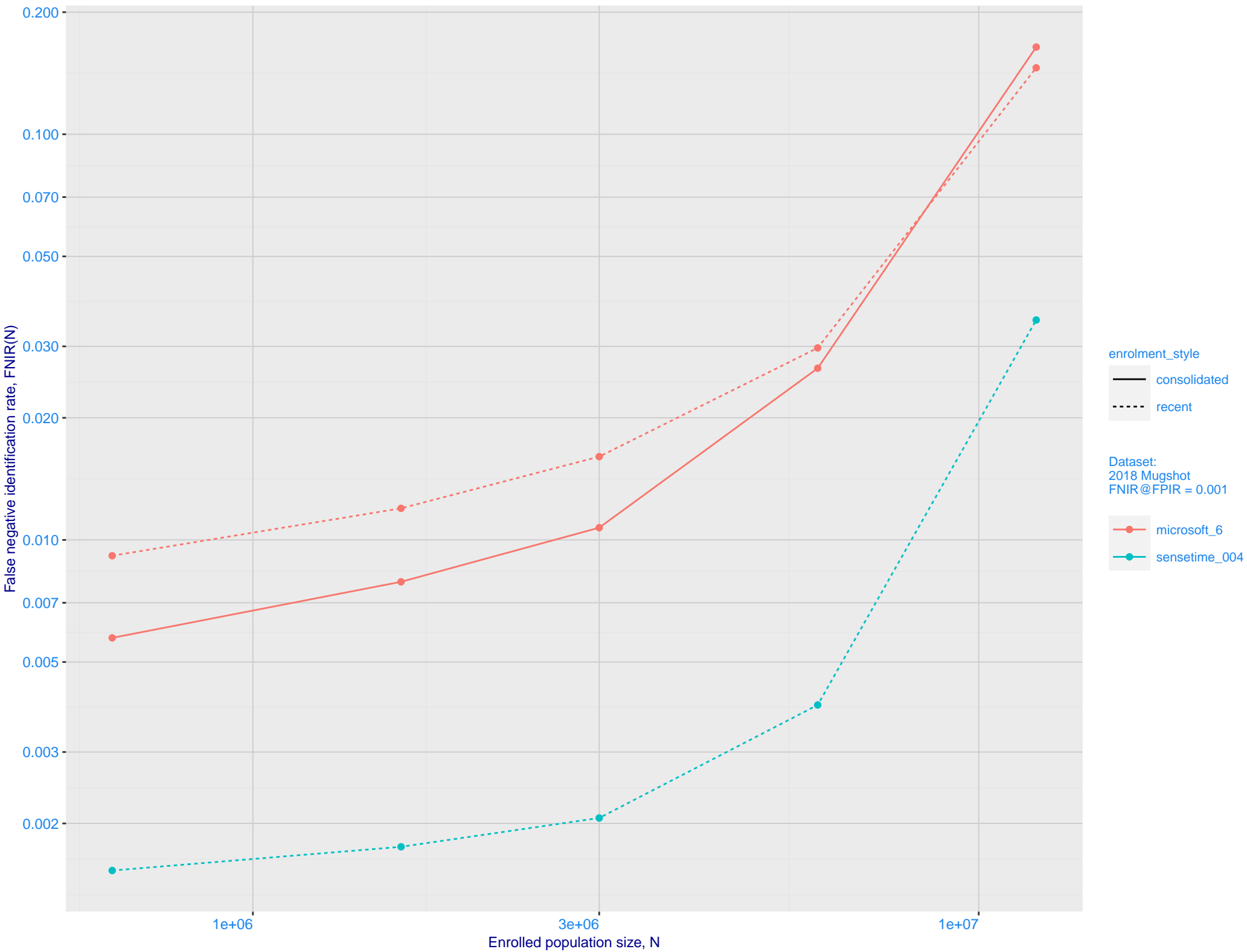
Mugshot webcam ranking 18 (out of 225) — FNIR(1600000, T, L+1) = 0.0366, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 4 (out of 195) — FNIR(1600000, T, L+1) = 0.3864, FPIR=0.001000 vs. lowest 0.1331 from hr_000

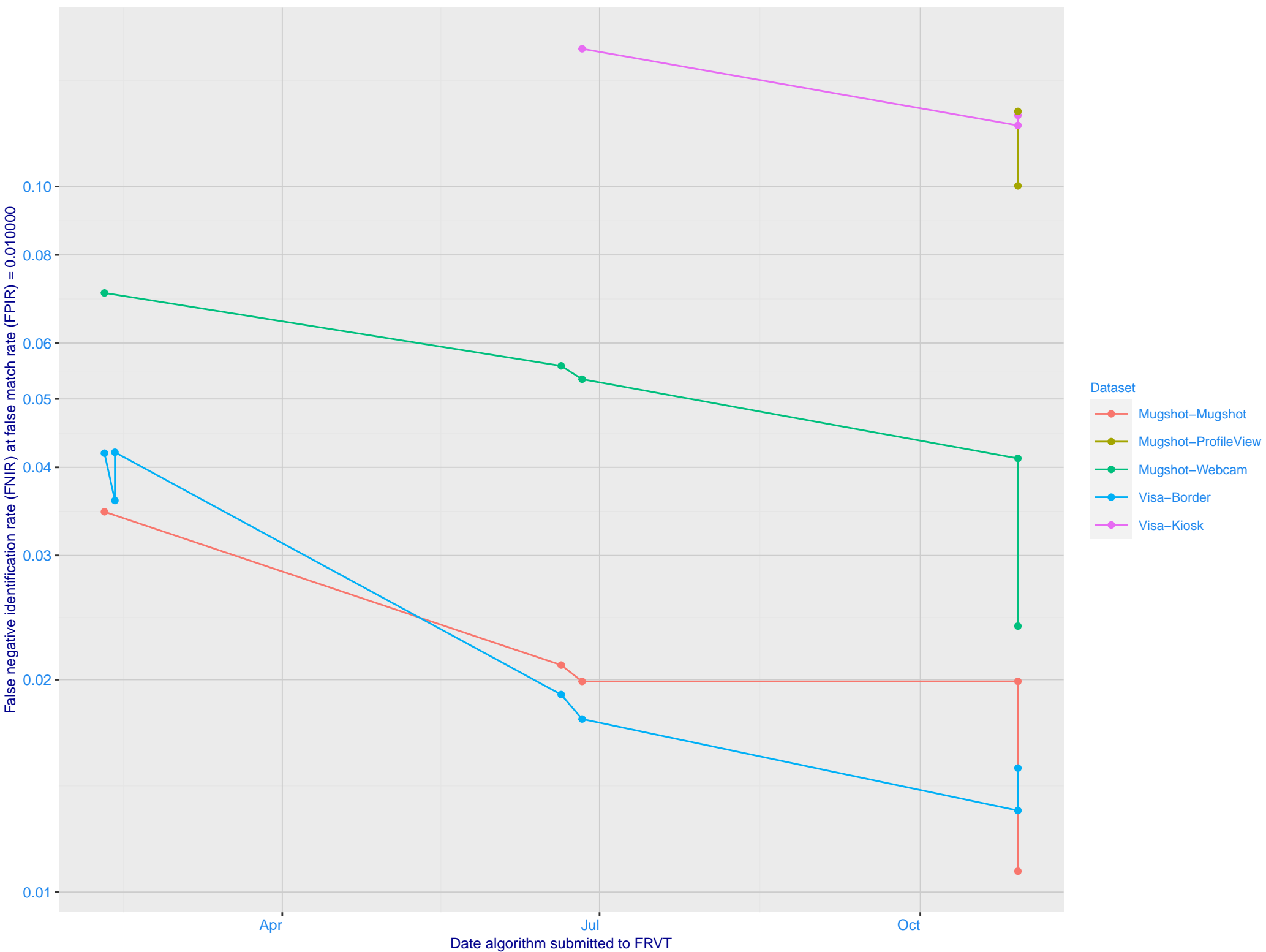
Immigration visa–border ranking 30 (out of 146) — FNIR(1600000, T, L+1) = 0.0317, FPIR=0.001000 vs. lowest 0.0049 from hr_000

Immigration visa–kiosk ranking 19 (out of 141) — FNIR(1600000, T, L+1) = 0.1853, FPIR=0.001000 vs. lowest 0.0996 from hr_000

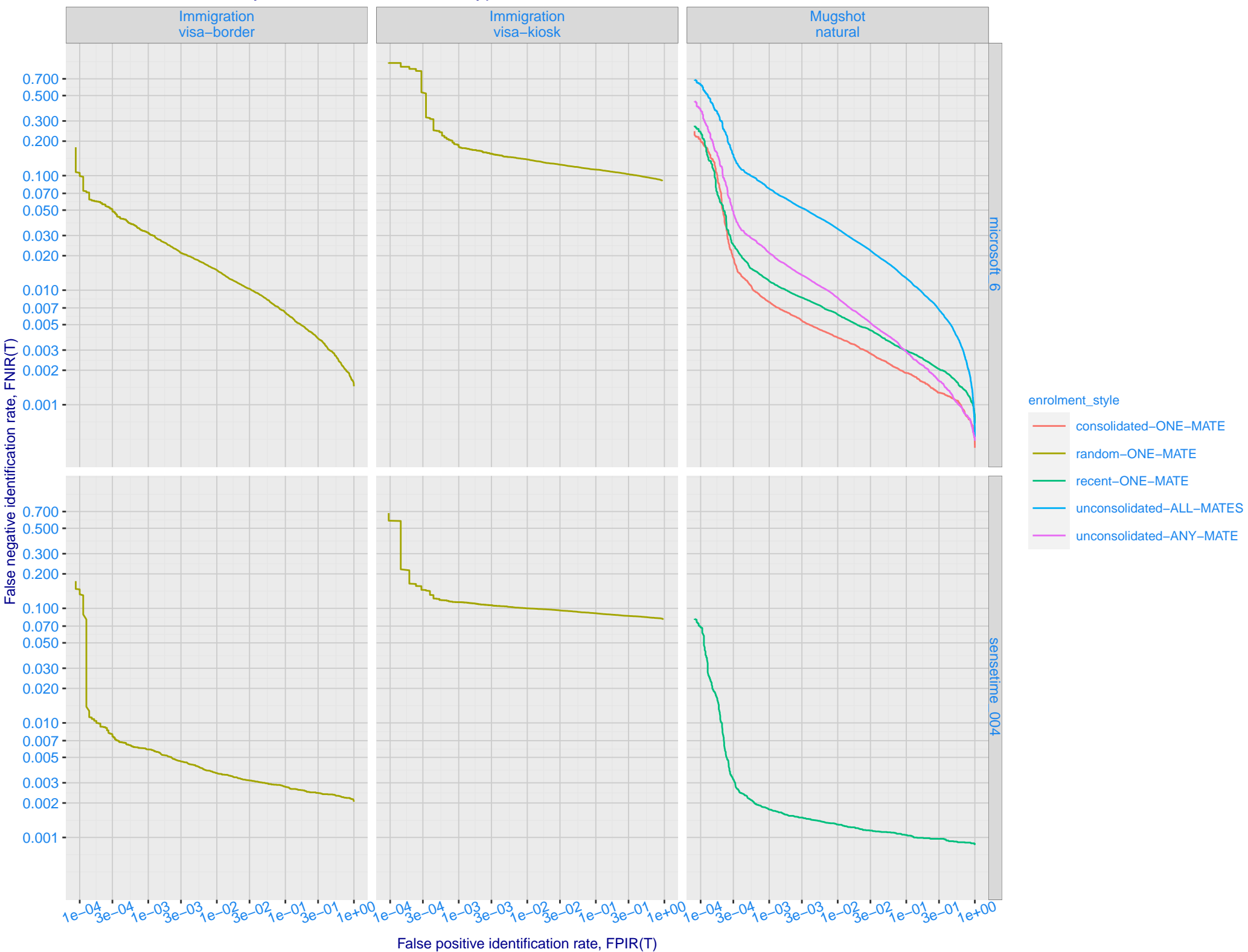
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)



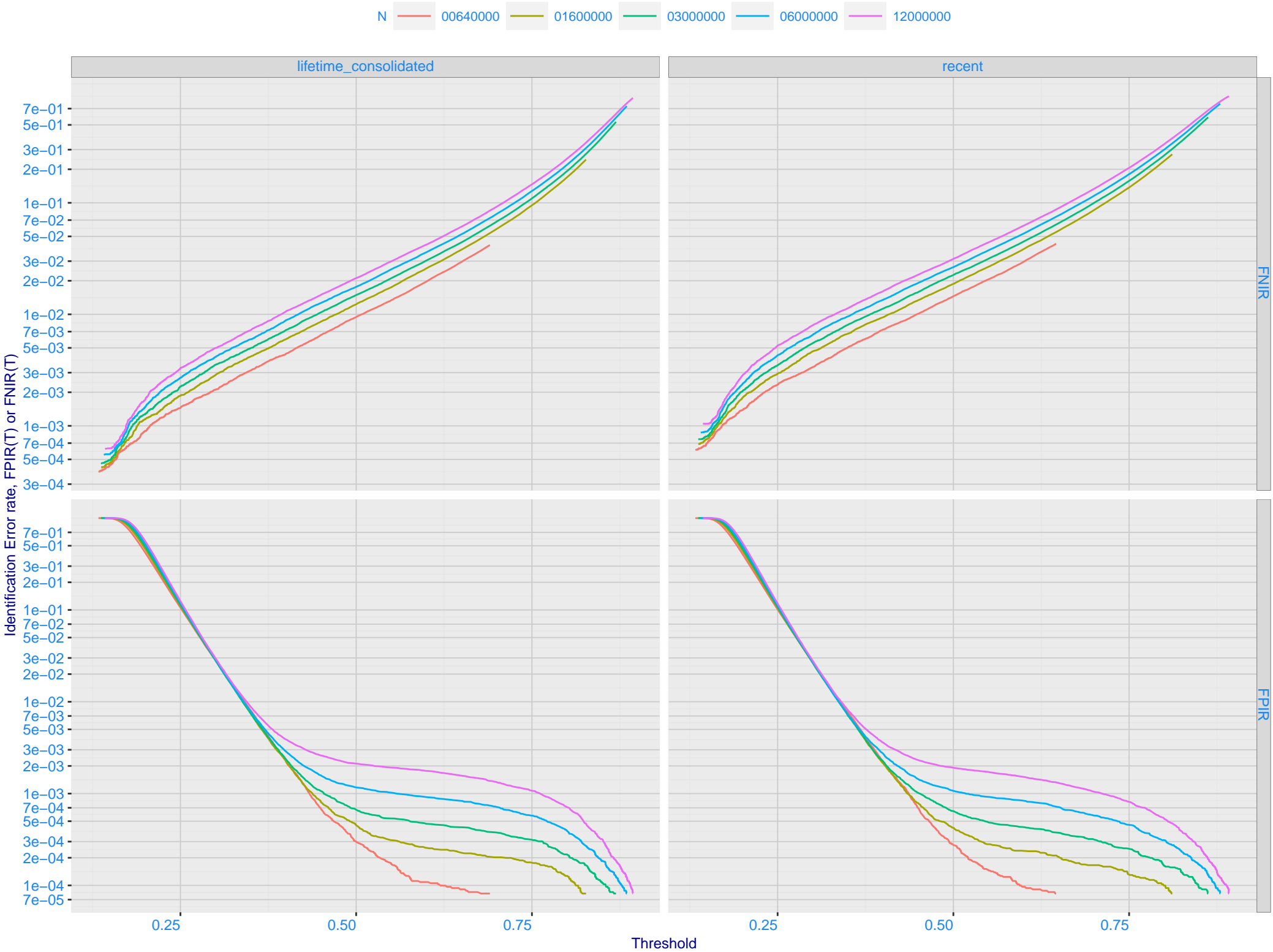
C: Evolution of accuracy for MICROSOFT algorithms on three datasets 2018 – present



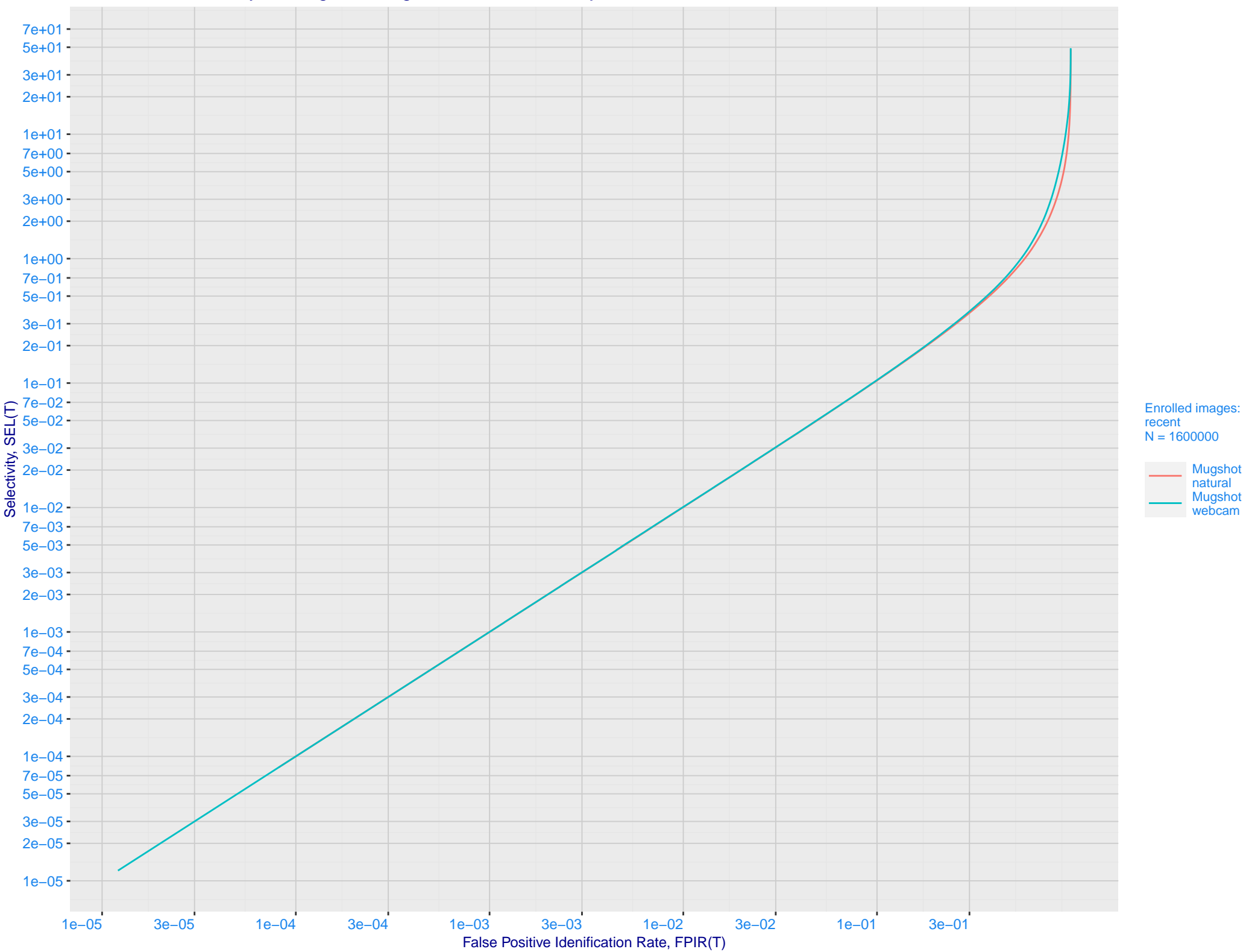
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



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

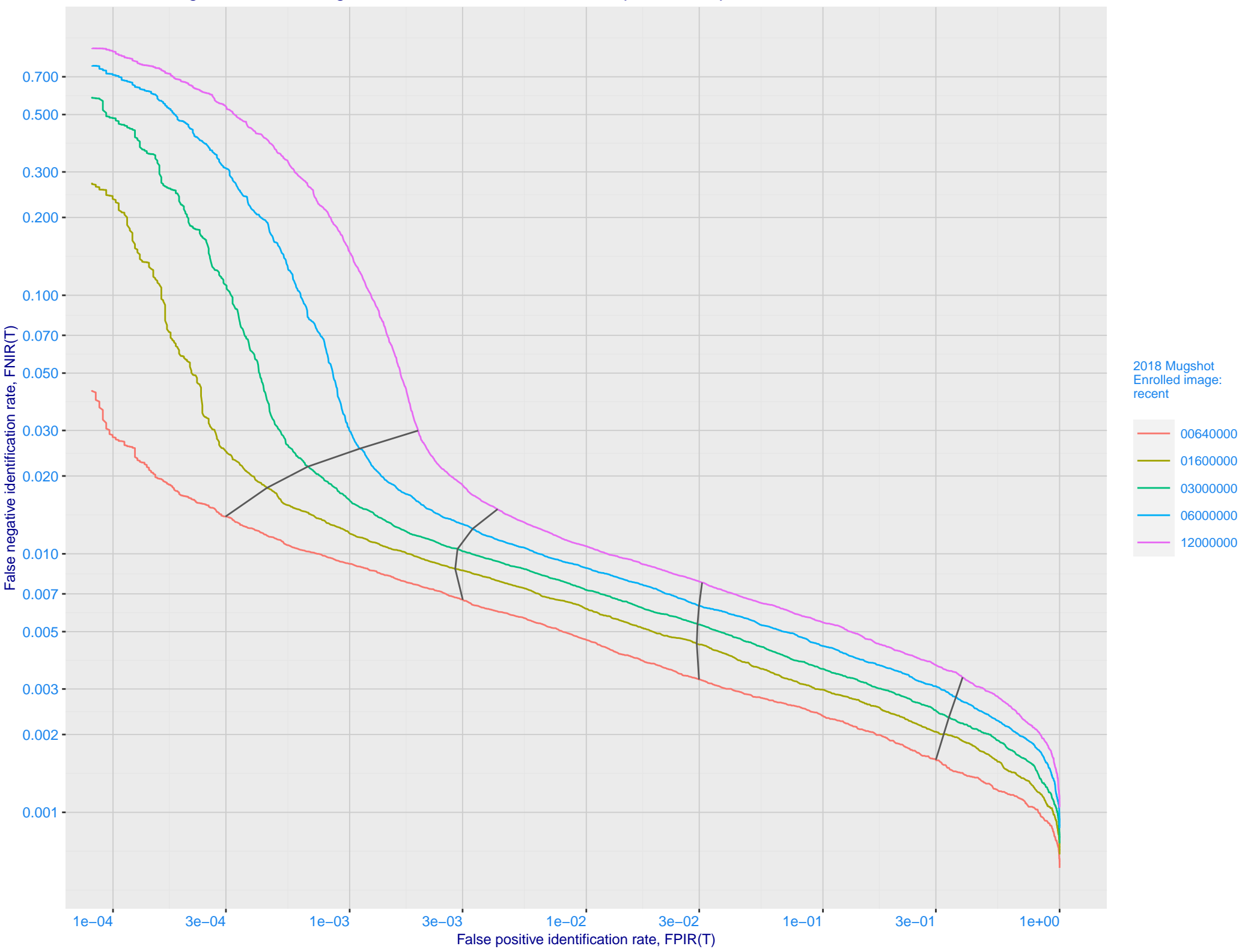


- Immigration visa-border
- Immigration visa-kiosk
- Mugshot natural
- Mugshot profile
- Mugshot webcam

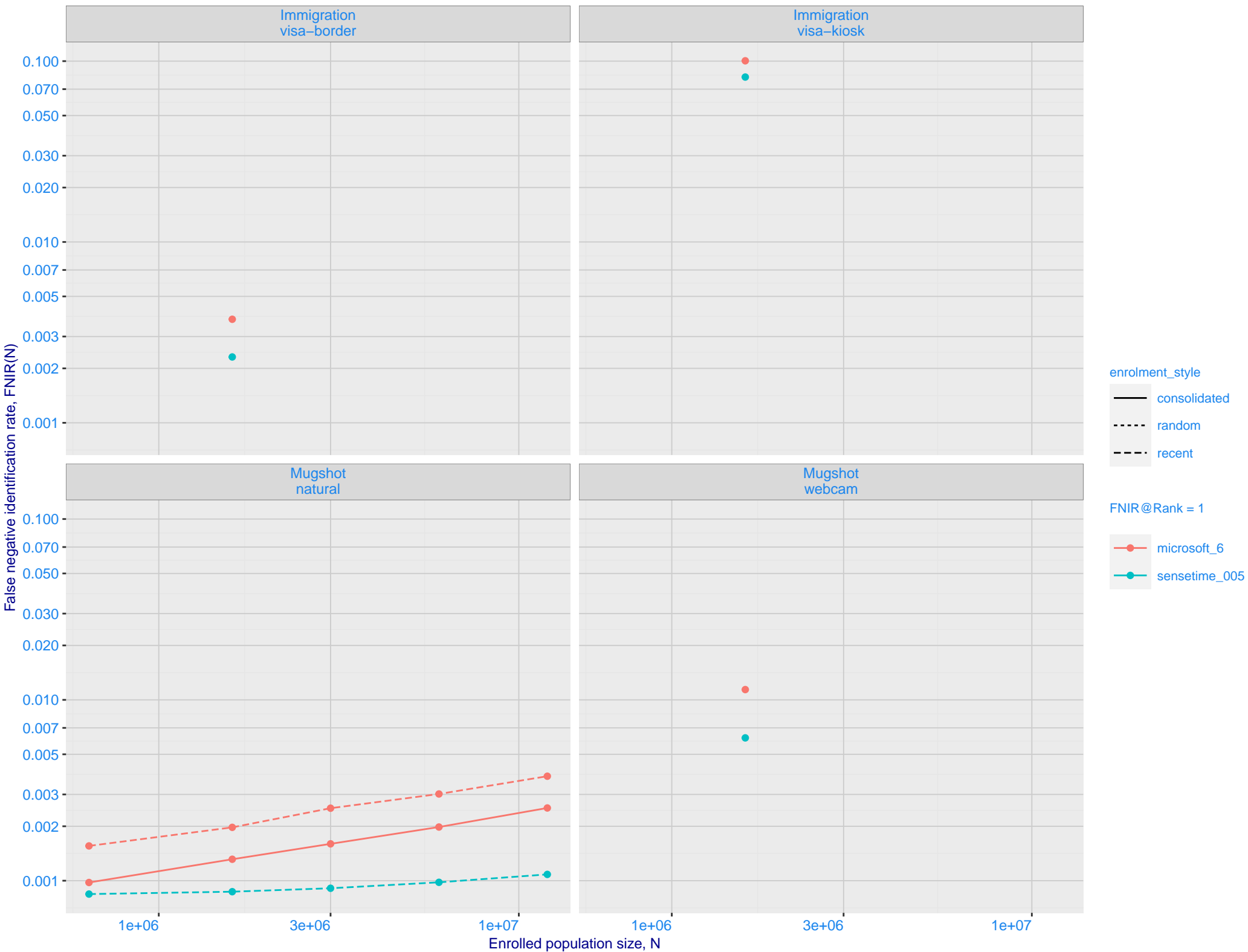
enrolment_style

—	random
- - - -	recent

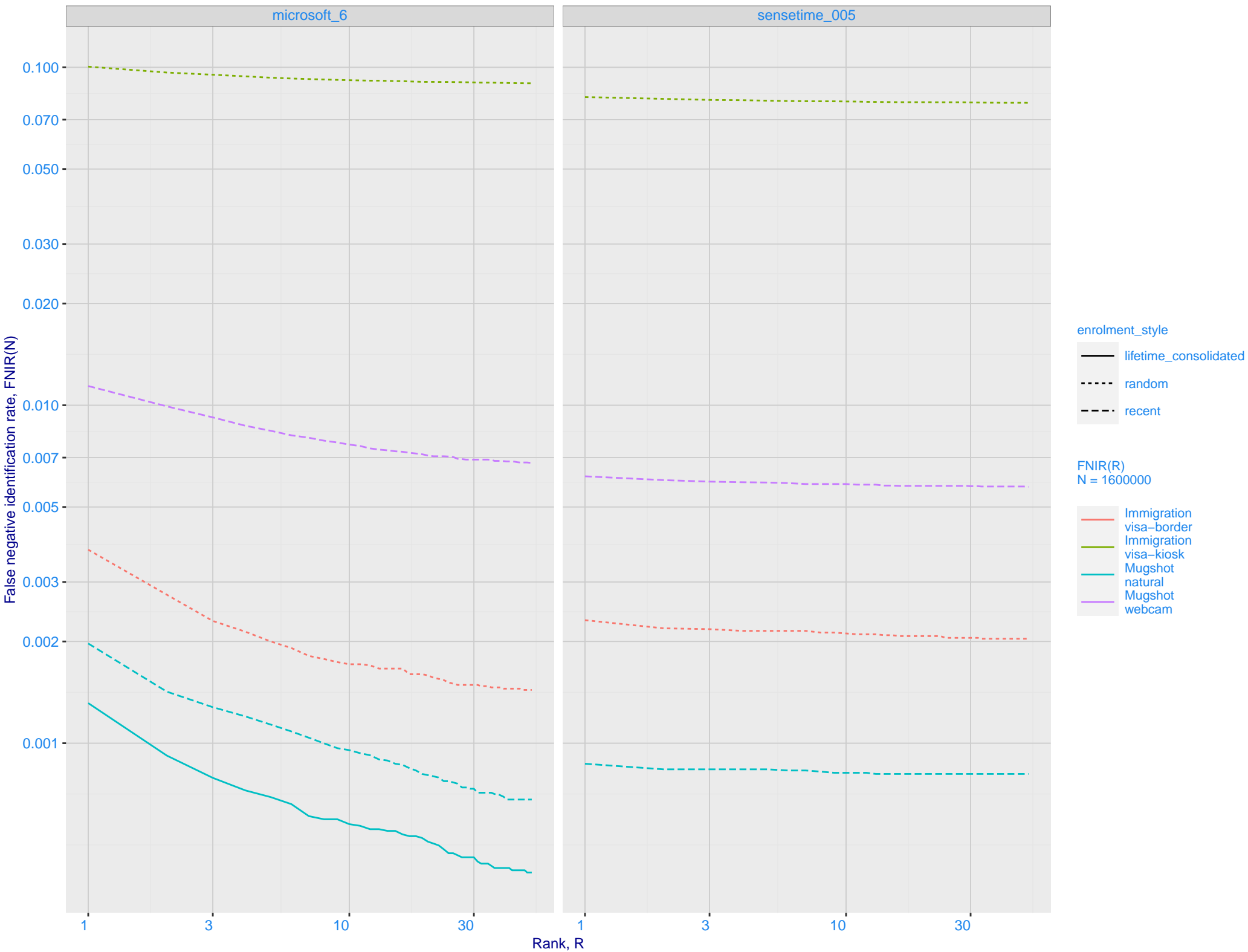
H: DET for Mugshot natural images and various N. Links connect points of equal threshold.



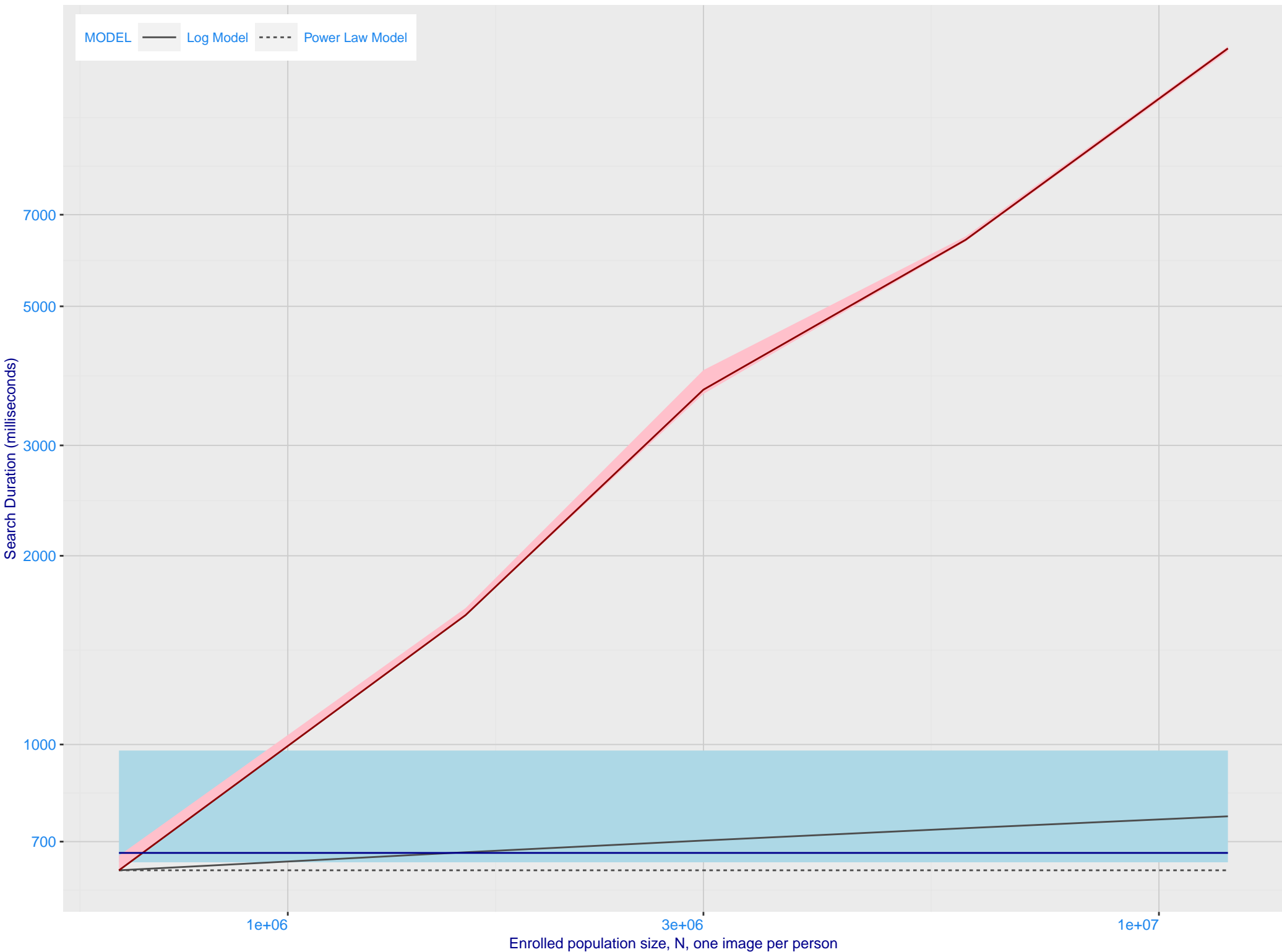
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)



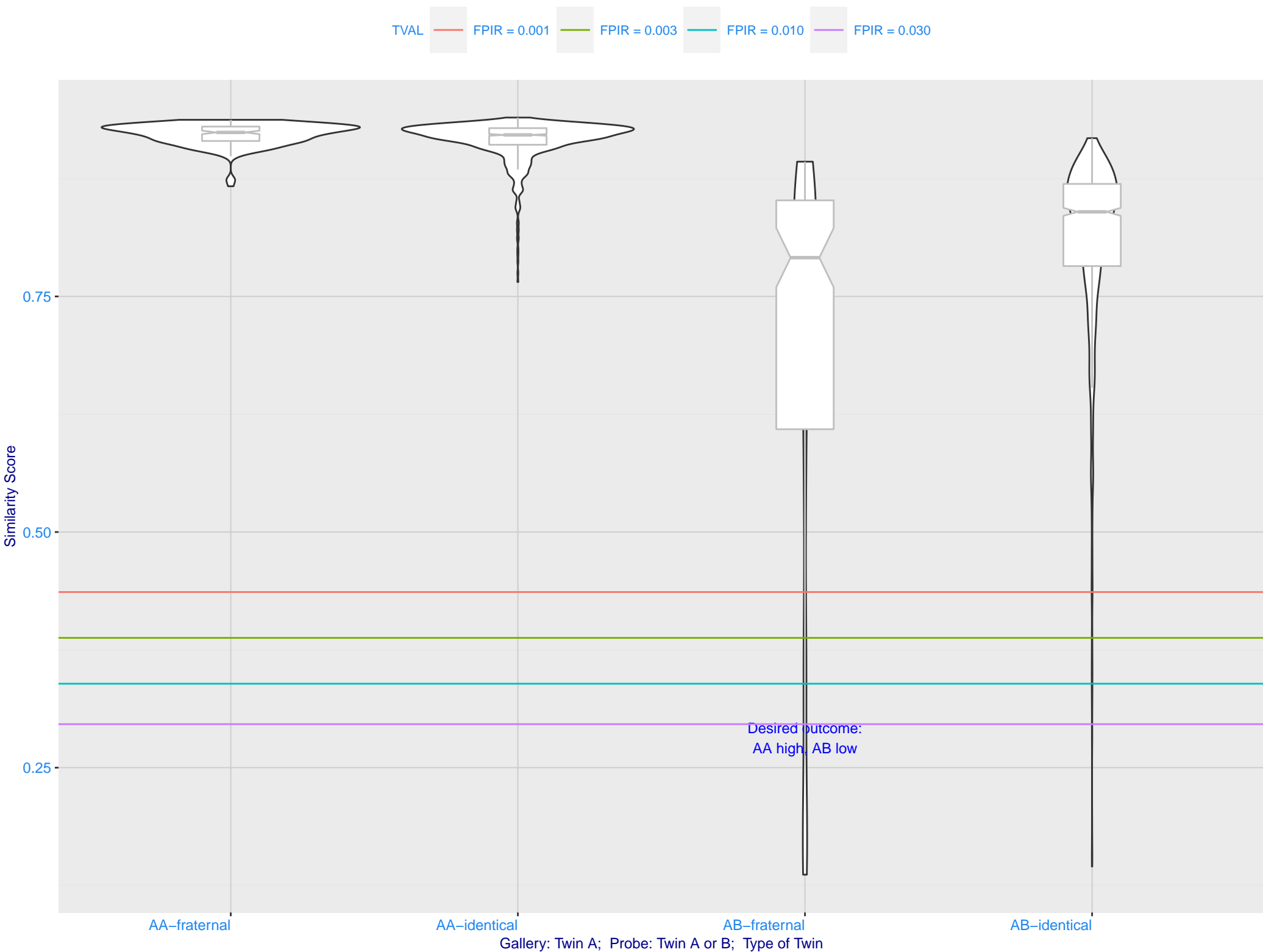
J: Investigational mode: FNIR(1600000, R, 0) by probe type



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

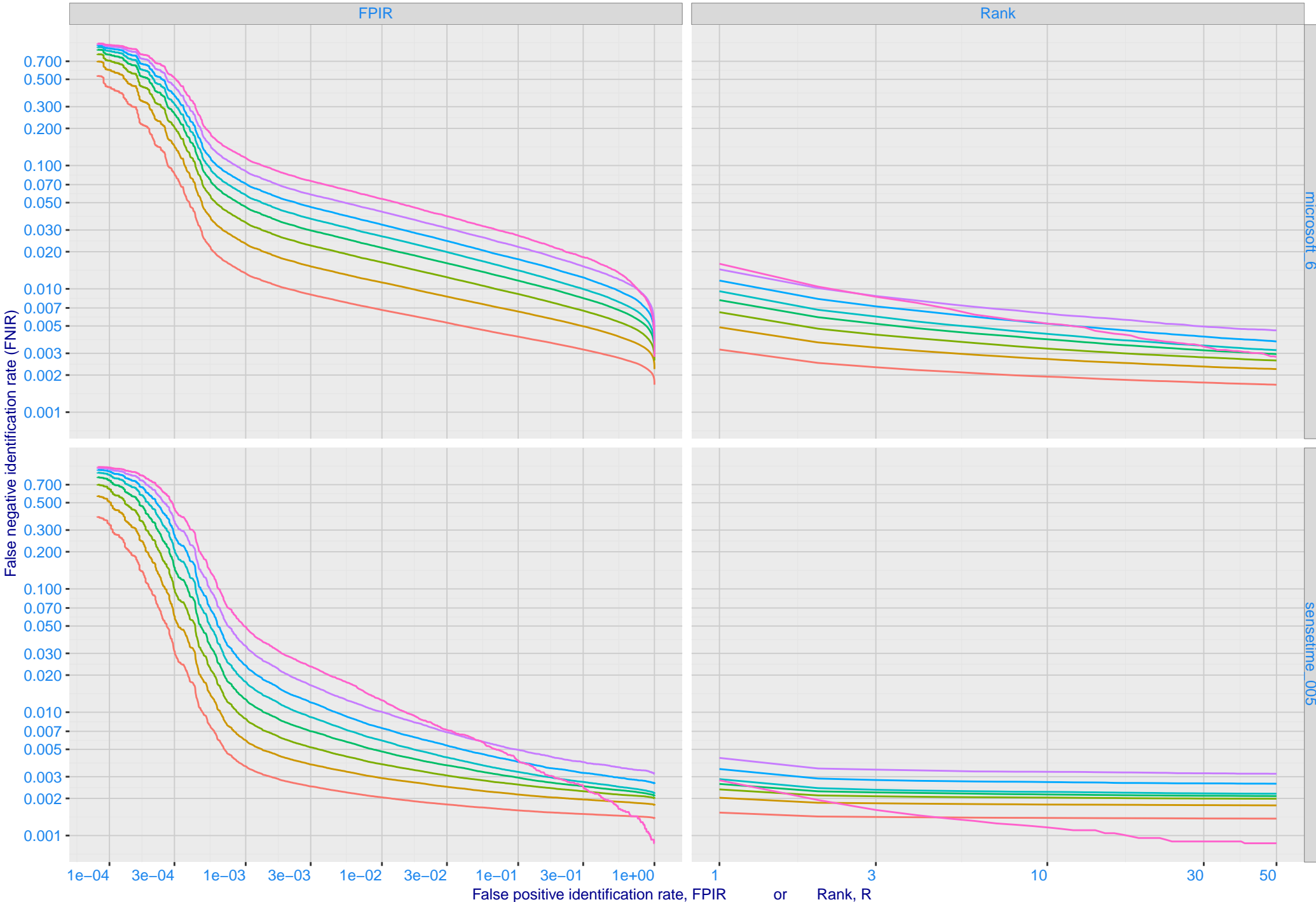
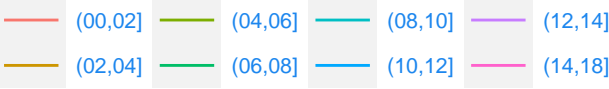


Solo-Twin and Twin-Twin similarity scores



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

