

A: Datasheet

Algorithm: hik_3

Developer: Hikvision Research Institute

Submission Date: 2018_06_30

Template size: 1408 bytes

Template time (2.5 percentile): 623 msec

Template time (median): 627 msec

Template time (97.5 percentile): 677 msec

Investigation:

Frontal mugshot ranking 460 (out of 618) -- FNIR(1600000, 0, 1) = 0.0115 vs. lowest 0.0004 from qazsmartvisionai_002

Mugshot webcam ranking 410 (out of 580) -- FNIR(1600000, 0, 1) = 0.0273 vs. lowest 0.0050 from qazsmartvisionai_003

Mugshot profile ranking 393 (out of 549) -- FNIR(1600000, 0, 1) = 0.6854 vs. lowest 0.0390 from qazsmartvisionai_002

Immigration visa-border ranking 368 (out of 500) -- FNIR(1600000, 0, 1) = 0.0183 vs. lowest 0.0008 from qazsmartvisionai_002

Immigration visa-kiosk ranking 362 (out of 451) -- FNIR(1600000, 0, 1) = 0.1396 vs. lowest 0.0337 from viante_002

Identification:

Frontal mugshot ranking 460 (out of 618) -- FNIR(1600000, T, L+1) = 0.0779, FPIR=0.003004 vs. lowest 0.0005 from qazsmartvisionai_003

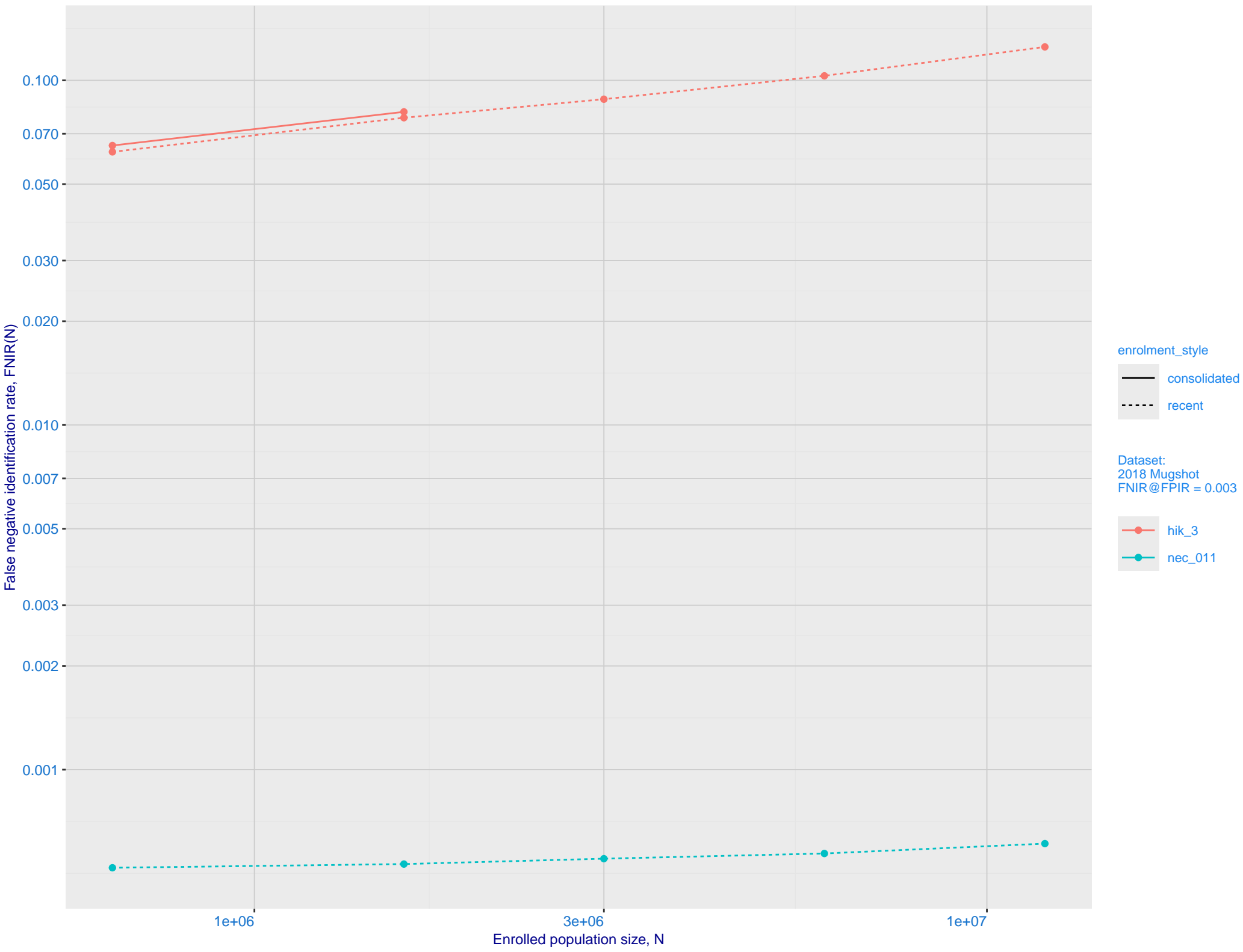
Mugshot webcam ranking 407 (out of 578) -- FNIR(1600000, T, L+1) = 0.1314, FPIR=0.002998 vs. lowest 0.0056 from qazsmartvisionai_003

Mugshot profile ranking 291 (out of 548) -- FNIR(1600000, T, L+1) = 0.9512, FPIR=0.003000 vs. lowest 0.0460 from qazsmartvisionai_002

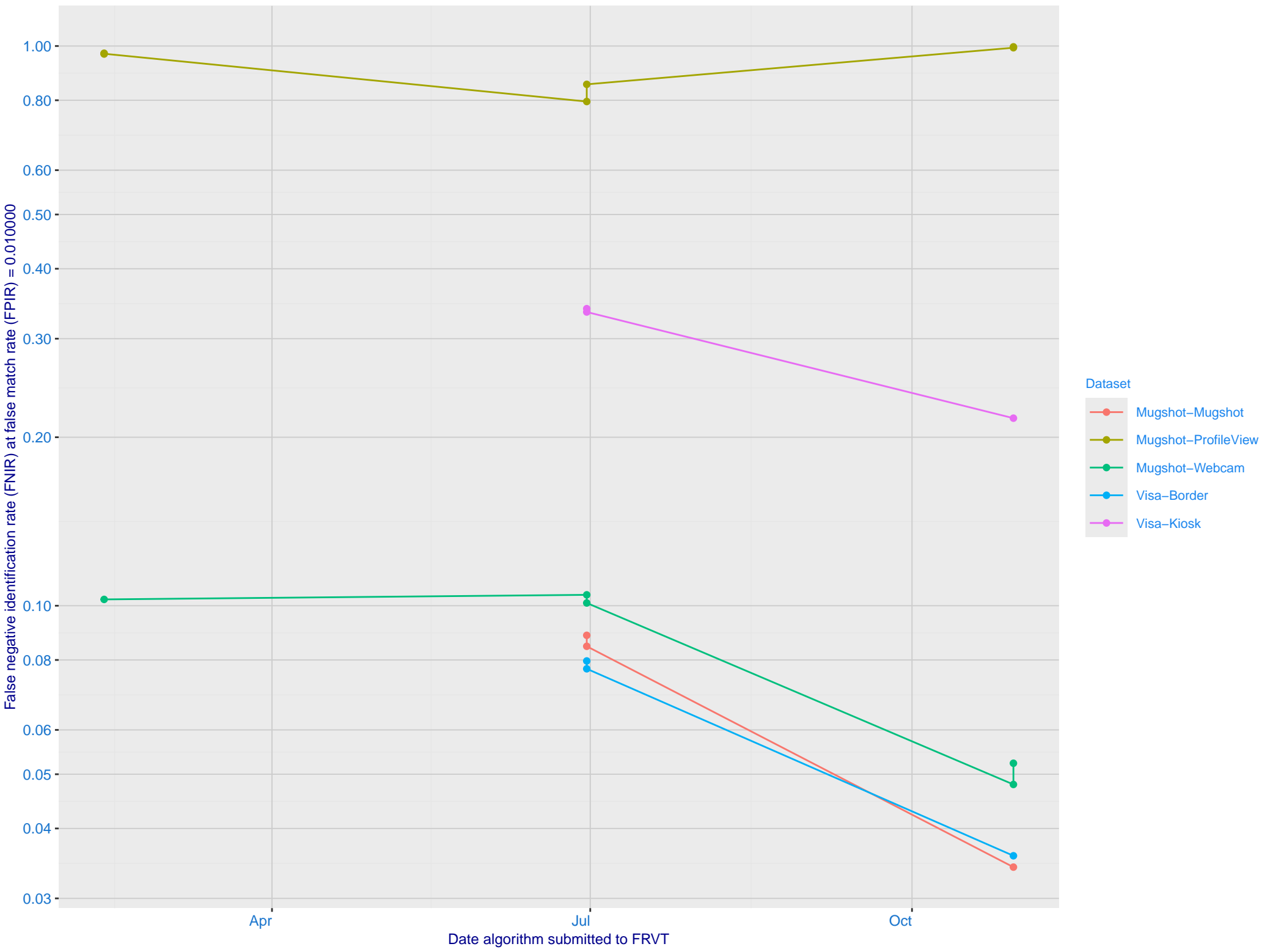
Immigration visa-border ranking 380 (out of 499) -- FNIR(1600000, T, L+1) = 0.1504, FPIR=0.002988 vs. lowest 0.0013 from nec_011

Immigration visa-kiosk ranking 321 (out of 451) -- FNIR(1600000, T, L+1) = 0.3926, FPIR=0.002992 vs. lowest 0.0427 from nec_011

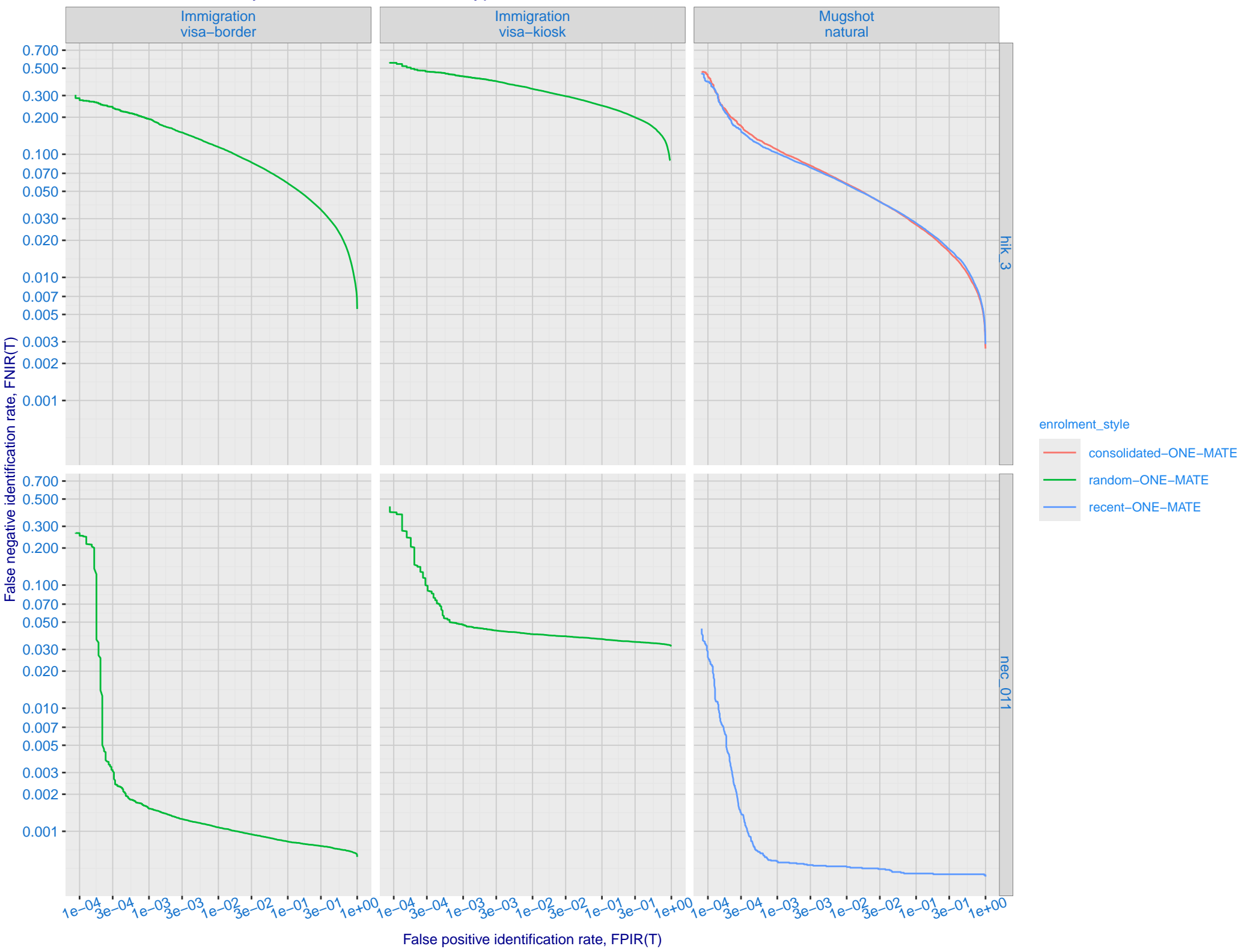
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (nec_011)



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

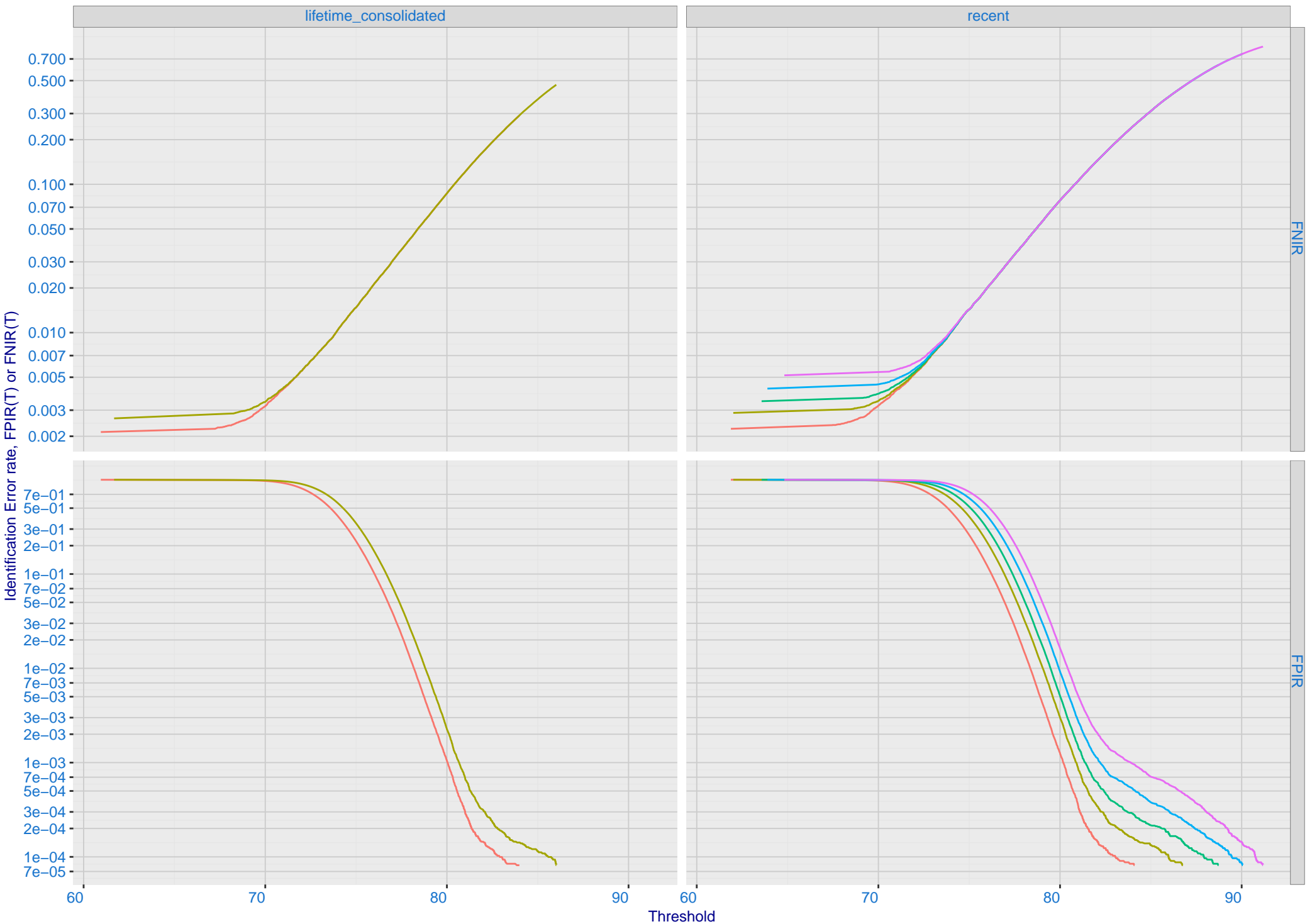


D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

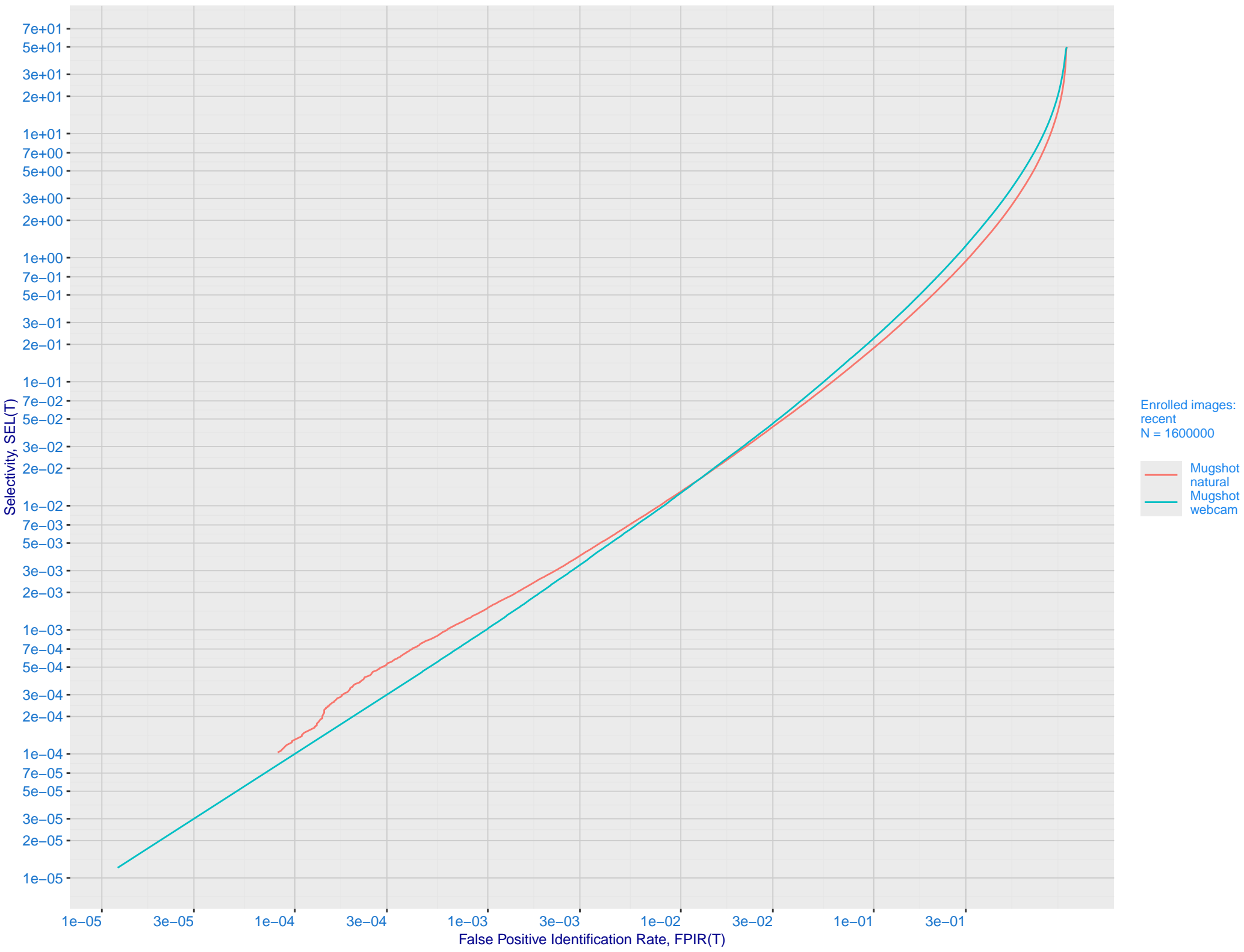


E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images

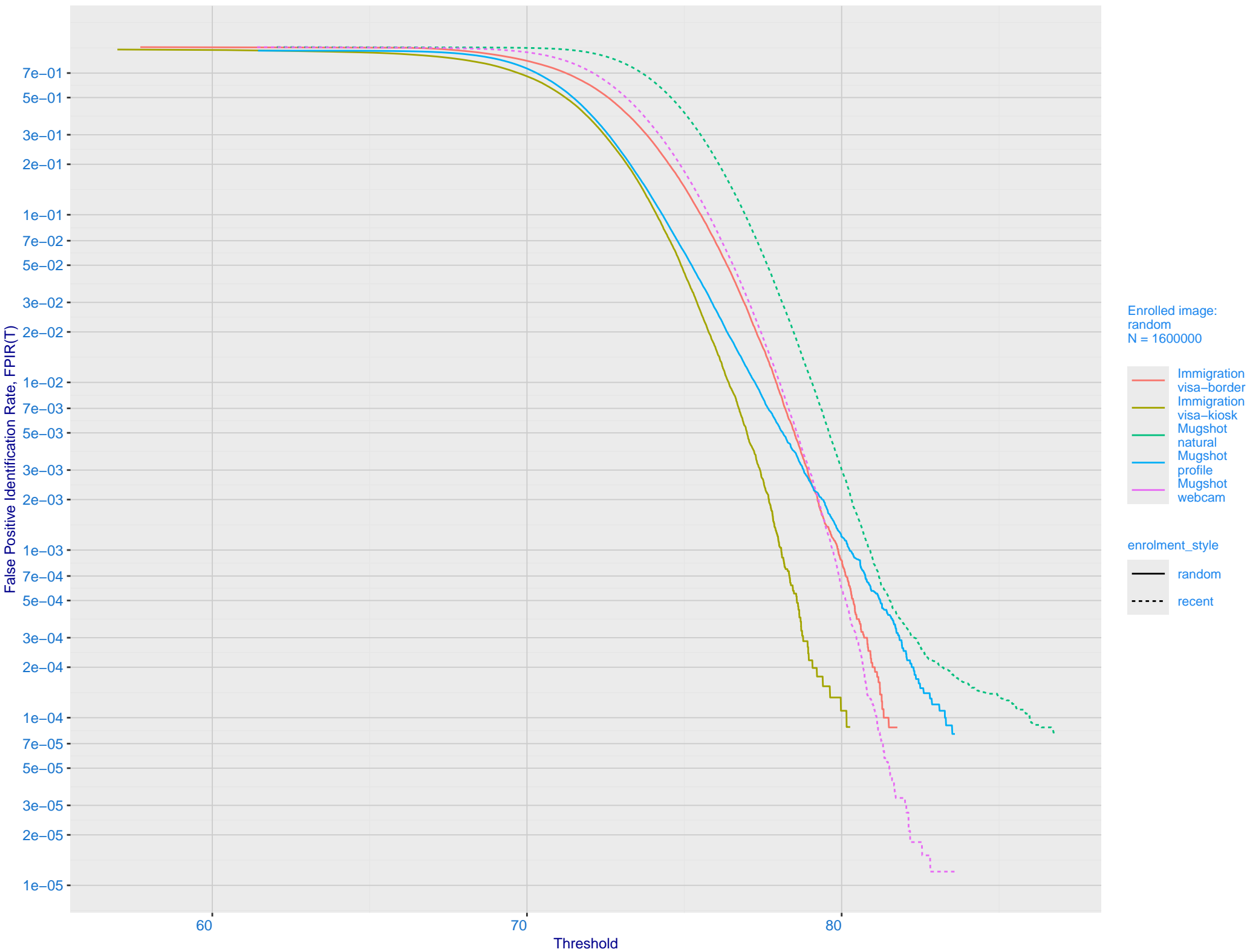
N 00640000 01600000 03000000 06000000 12000000



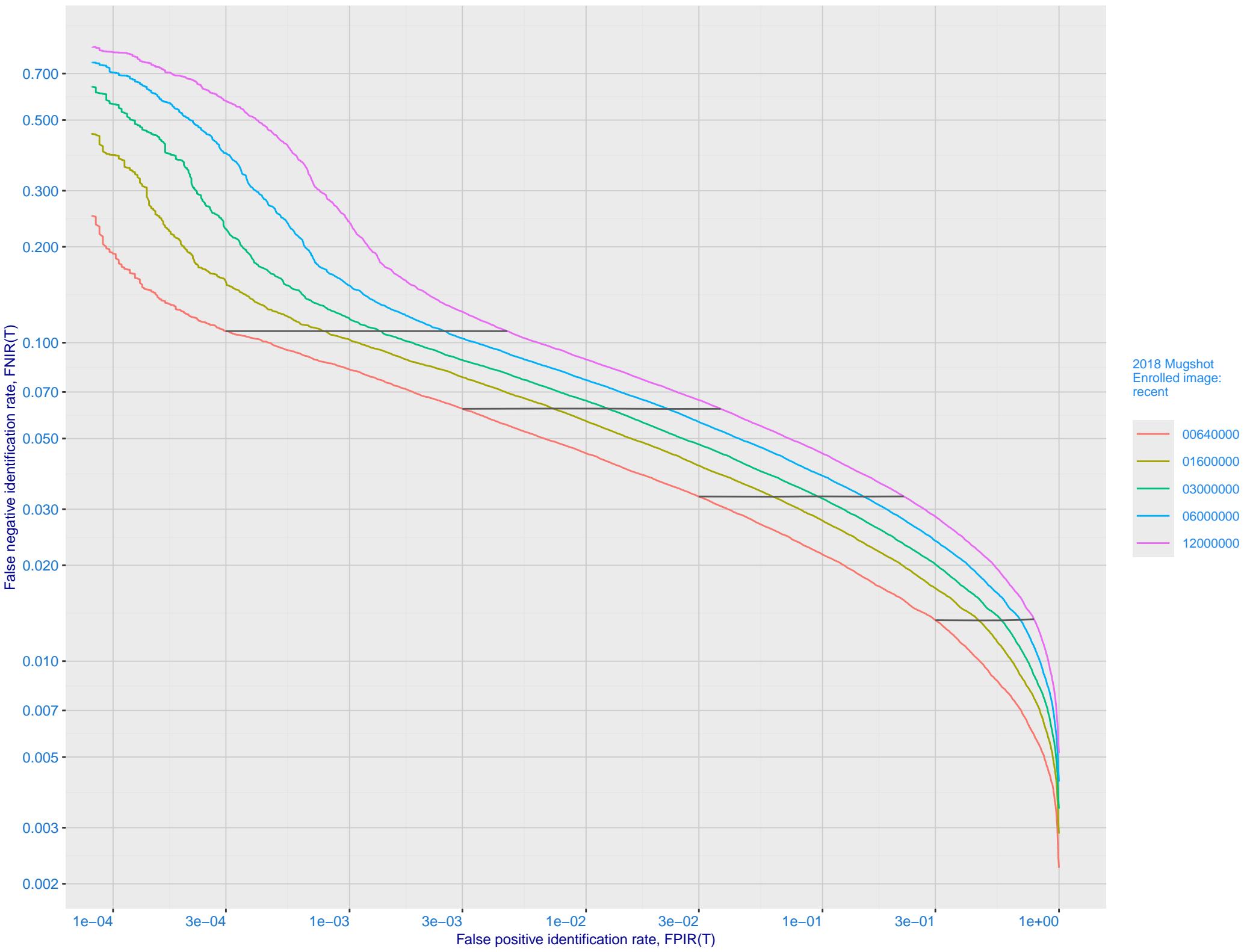
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



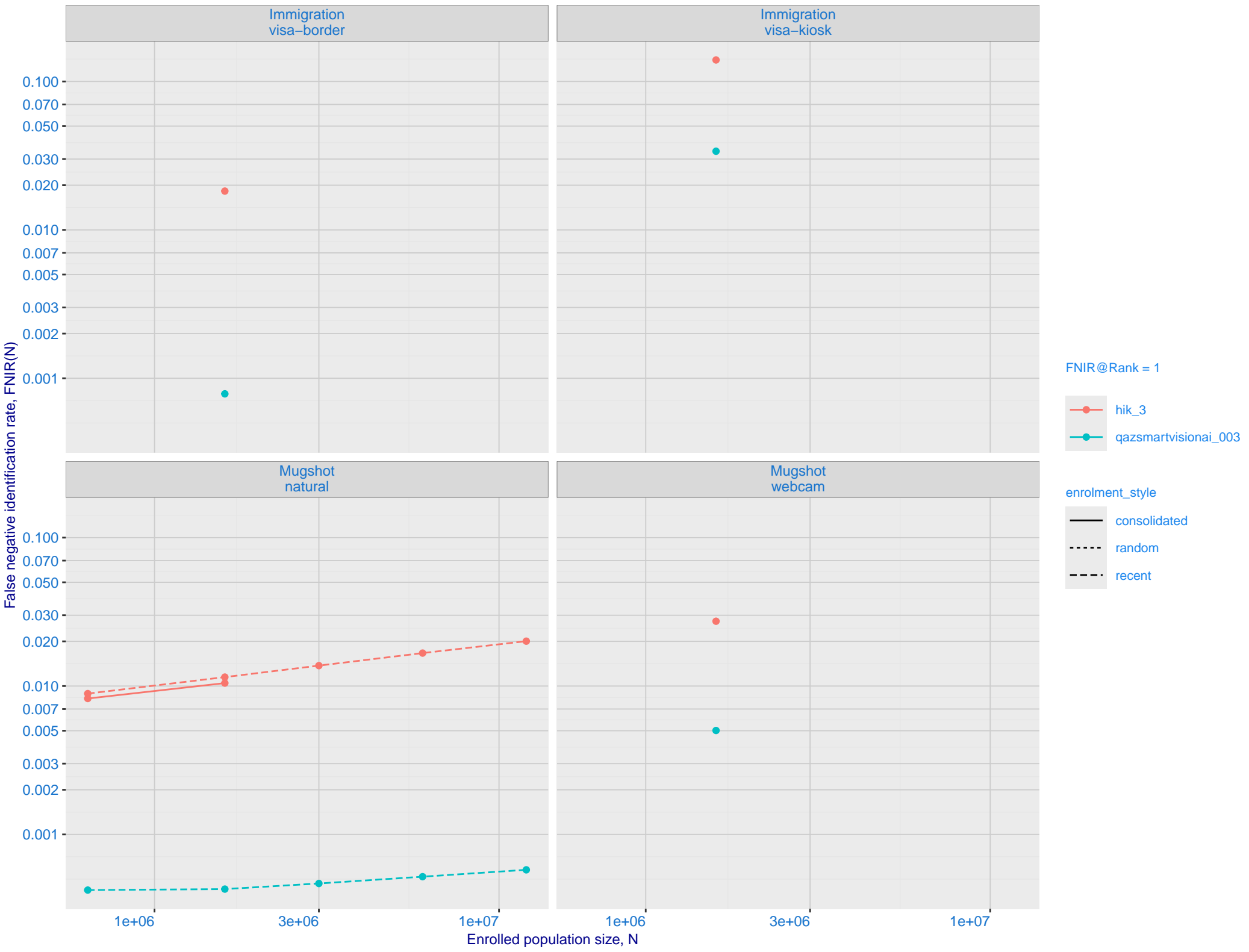
G: FPIR dependence on T by probe type for N = 1600000 subjects



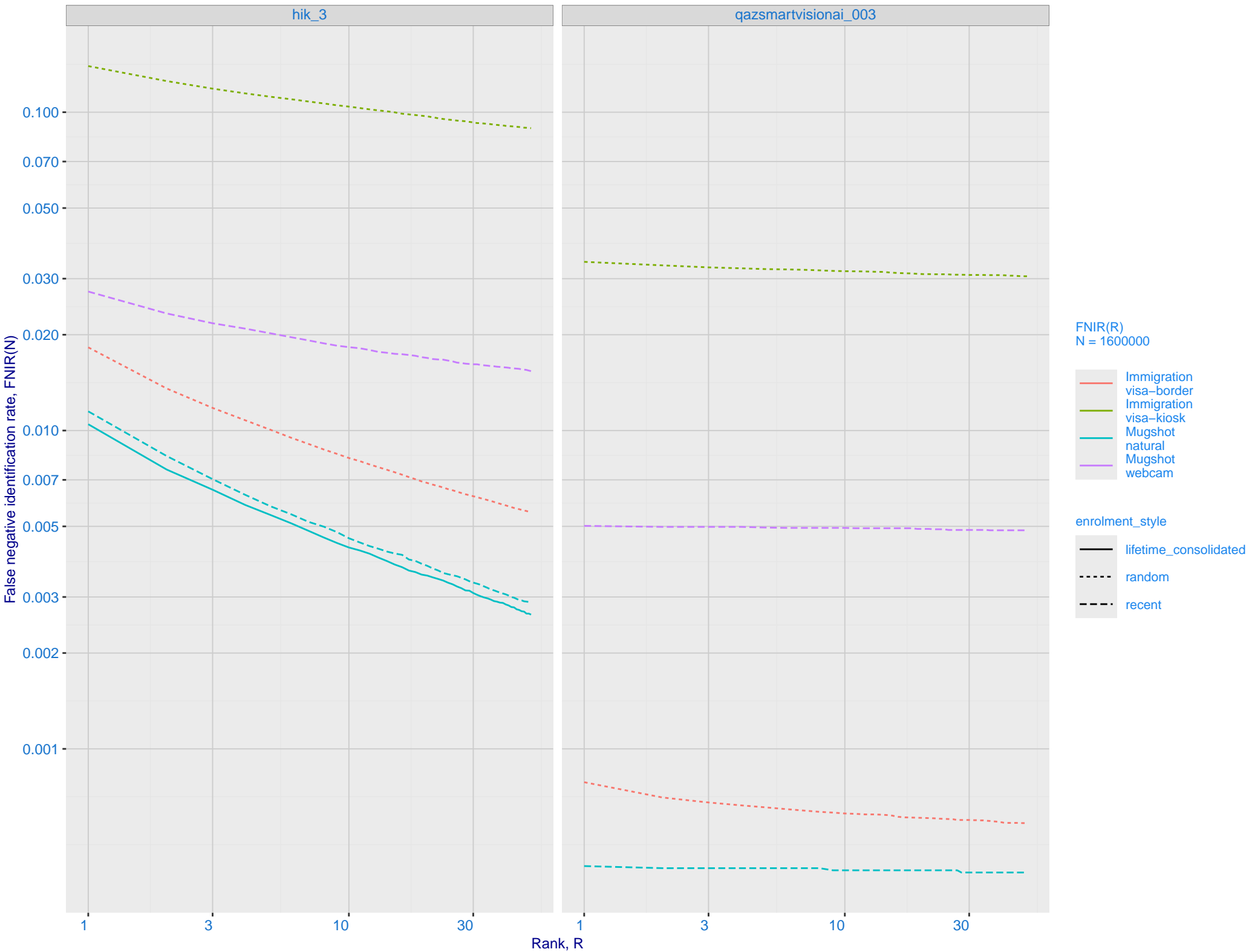
J: DET for Mugshot natural images and various N. Links connect points of equal threshold.



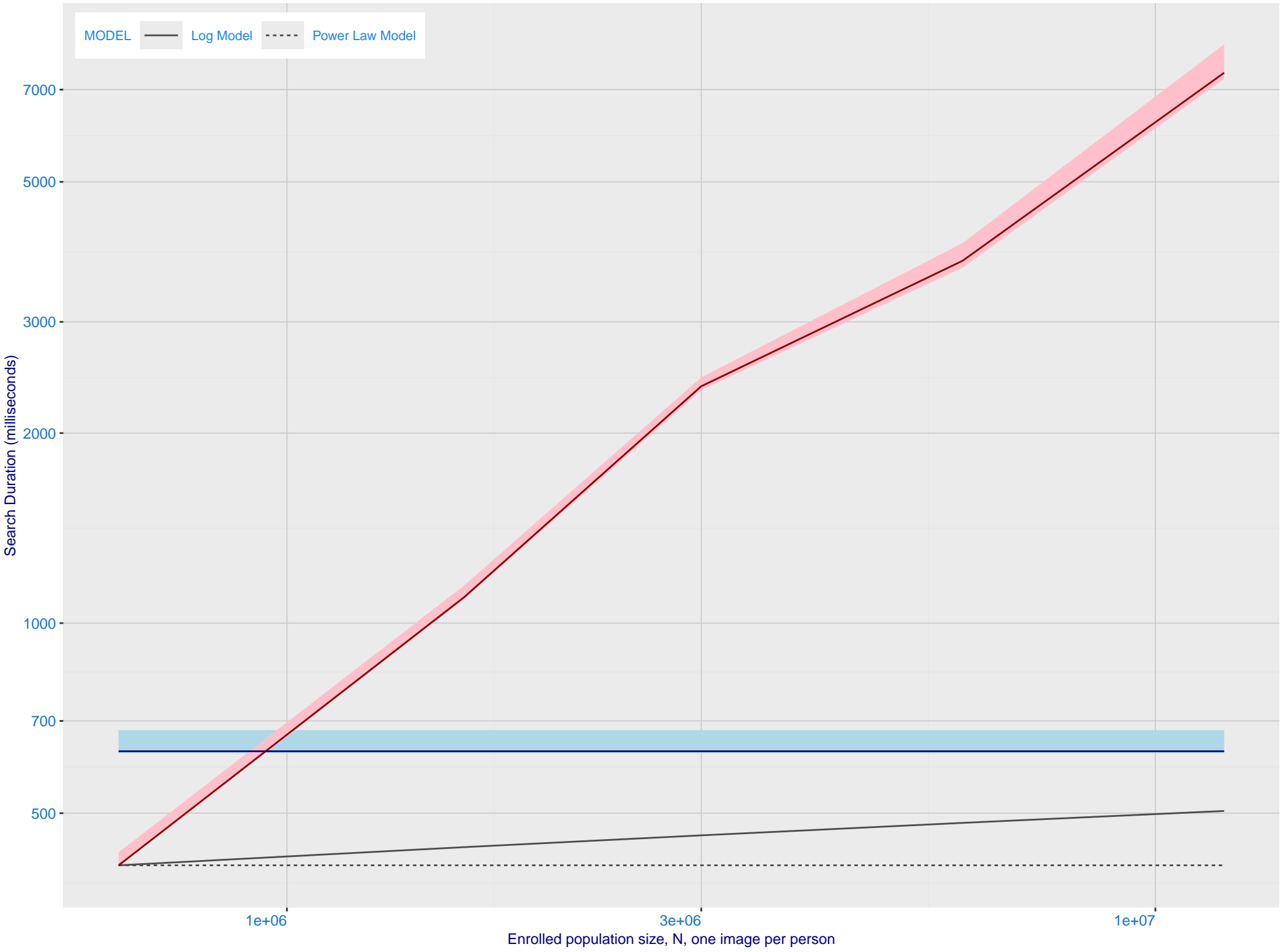
K: Investigational mode: FNIR(N, 1, 0) vs. most accurate (qazsmartvisionai_003)



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

