

A: Datasheet

Algorithm: idemia\_5

Developer: Idemia

Submission Date: 2018\_10\_29

Template size: 352 bytes

Template time (2.5 percentile): 359 msec

Template time (median): 371 msec

Template time (97.5 percentile): 405 msec

Investigation:

Frontal mugshot ranking 111 (out of 265) --- FNIR(1600000, 0, 1) = 0.0081 vs. lowest 0.0009 from sensetime\_005

Mugshot webcam ranking 131 (out of 227) --- FNIR(1600000, 0, 1) = 0.0392 vs. lowest 0.0062 from sensetime\_005

Mugshot profile ranking 144 (out of 196) --- FNIR(1600000, 0, 1) = 0.9538 vs. lowest 0.0591 from sensetime\_005

Immigration visa-border ranking 77 (out of 148) --- FNIR(1600000, 0, 1) = 0.0214 vs. lowest 0.0013 from visionlabs\_010

Immigration visa-kiosk ranking 85 (out of 145) --- FNIR(1600000, 0, 1) = 0.2172 vs. lowest 0.0568 from hr\_000

Identification:

Frontal mugshot ranking 70 (out of 265) --- FNIR(1600000, T, L+1) = 0.0439, FPIR=0.001000 vs. lowest 0.0018 from sensetime\_004

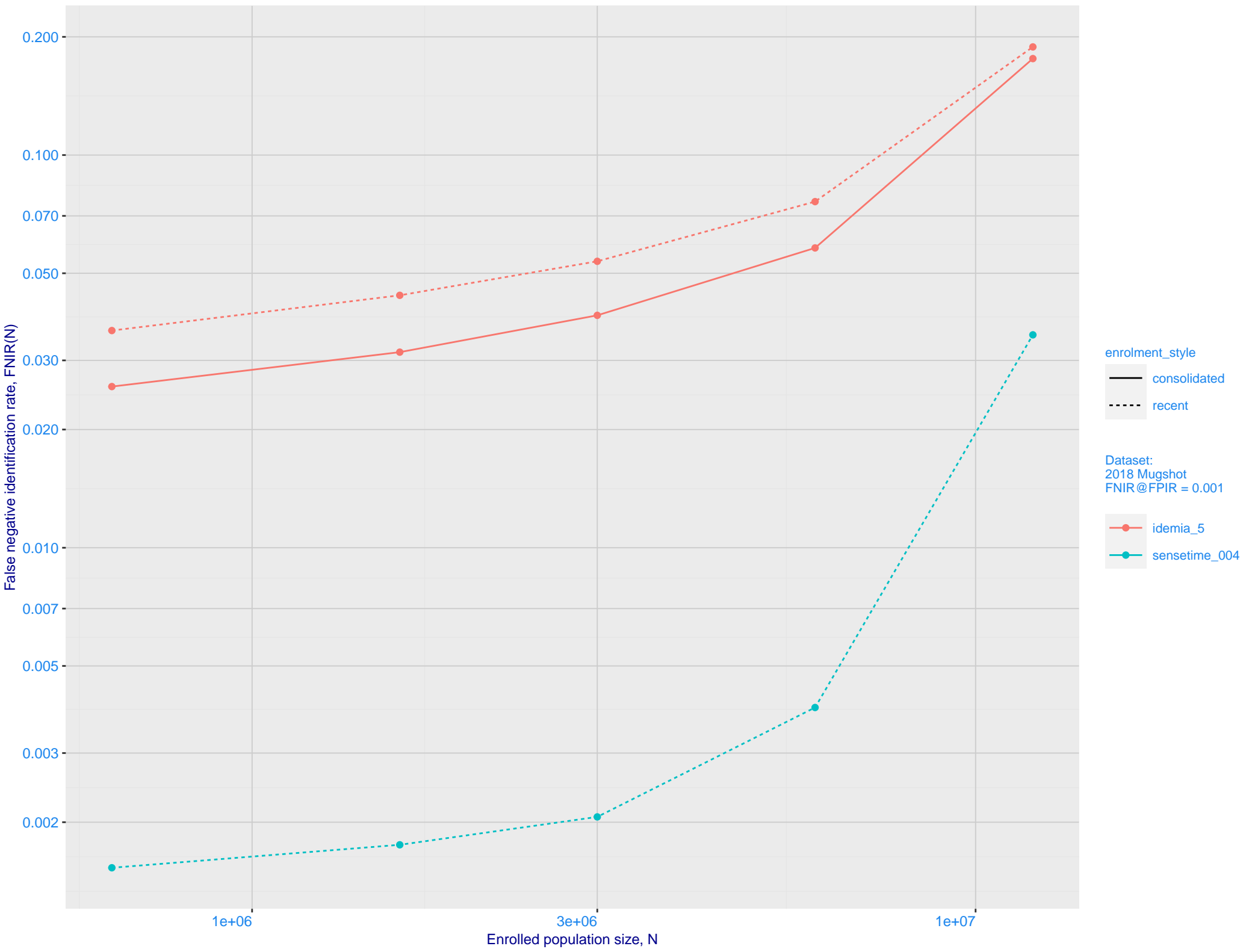
Mugshot webcam ranking 104 (out of 225) --- FNIR(1600000, T, L+1) = 0.1498, FPIR=0.001000 vs. lowest 0.0122 from sensetime\_003

Mugshot profile ranking 54 (out of 195) --- FNIR(1600000, T, L+1) = 0.9775, FPIR=0.001000 vs. lowest 0.1331 from hr\_000

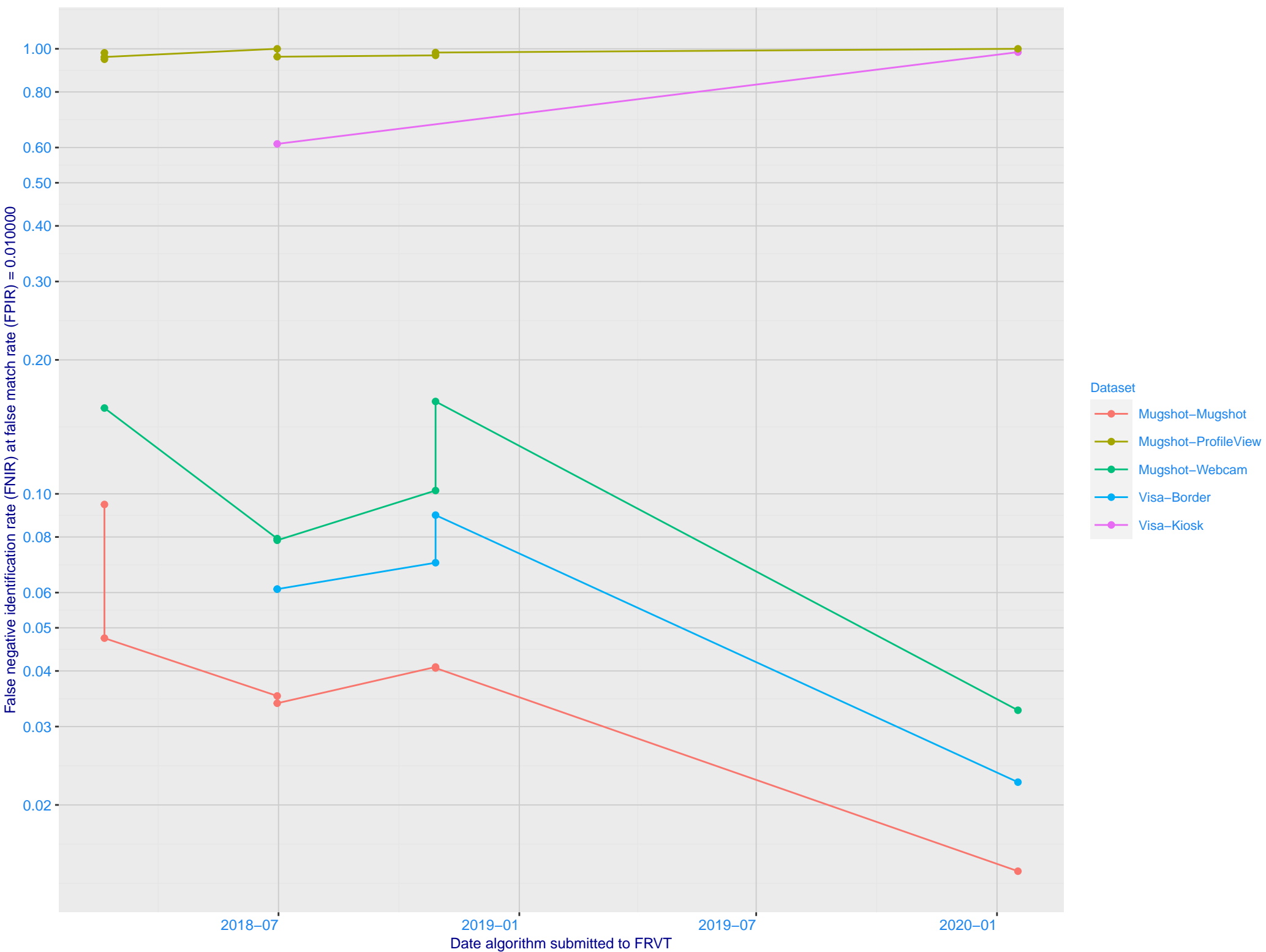
Immigration visa-border ranking 73 (out of 146) --- FNIR(1600000, T, L+1) = 0.1302, FPIR=0.001000 vs. lowest 0.0049 from hr\_000

Immigration visa-kiosk ranking 100 (out of 141) --- FNIR(1600000, T, L+1) = 0.8801, FPIR=0.001000 vs. lowest 0.0996 from hr\_000

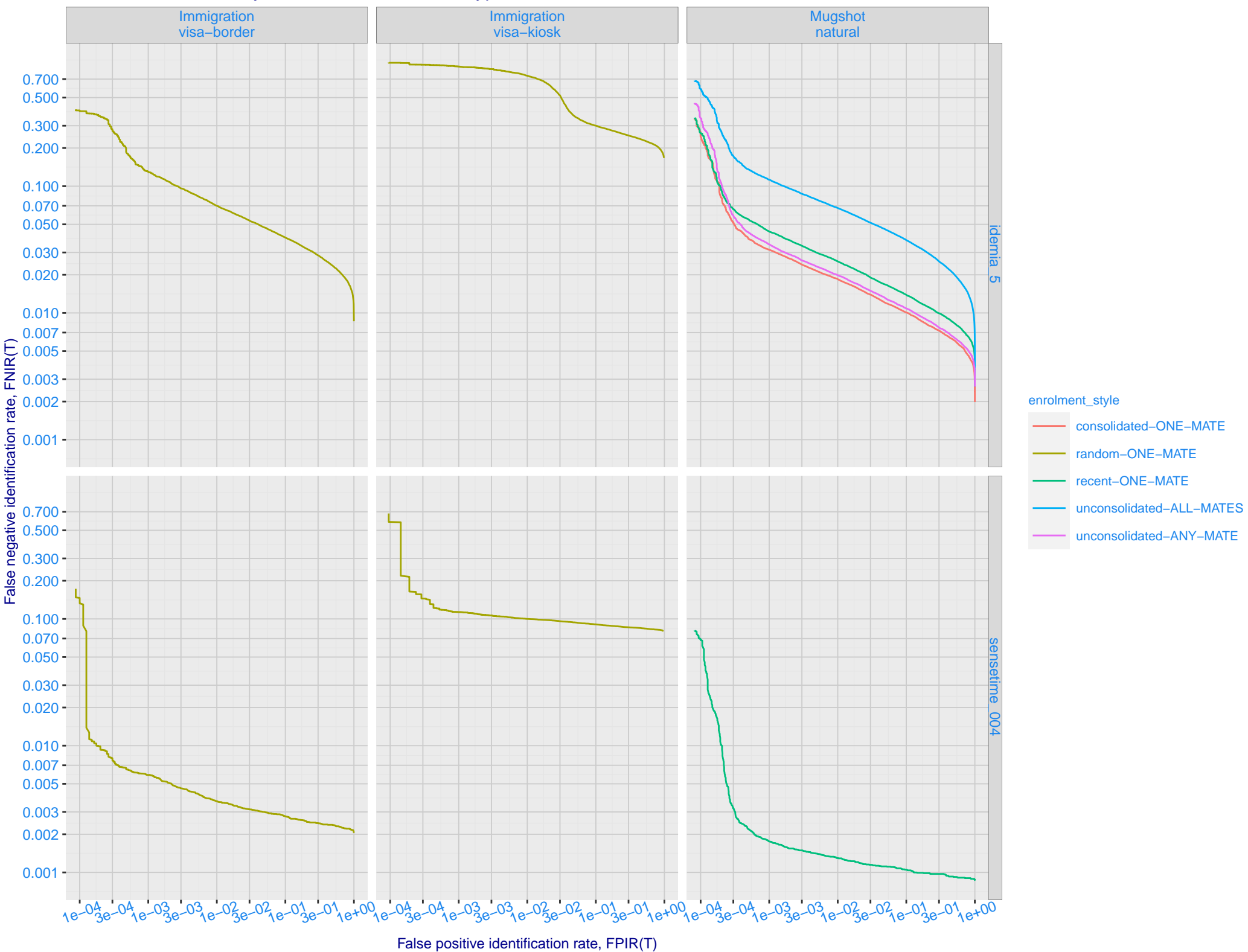
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime\_004)



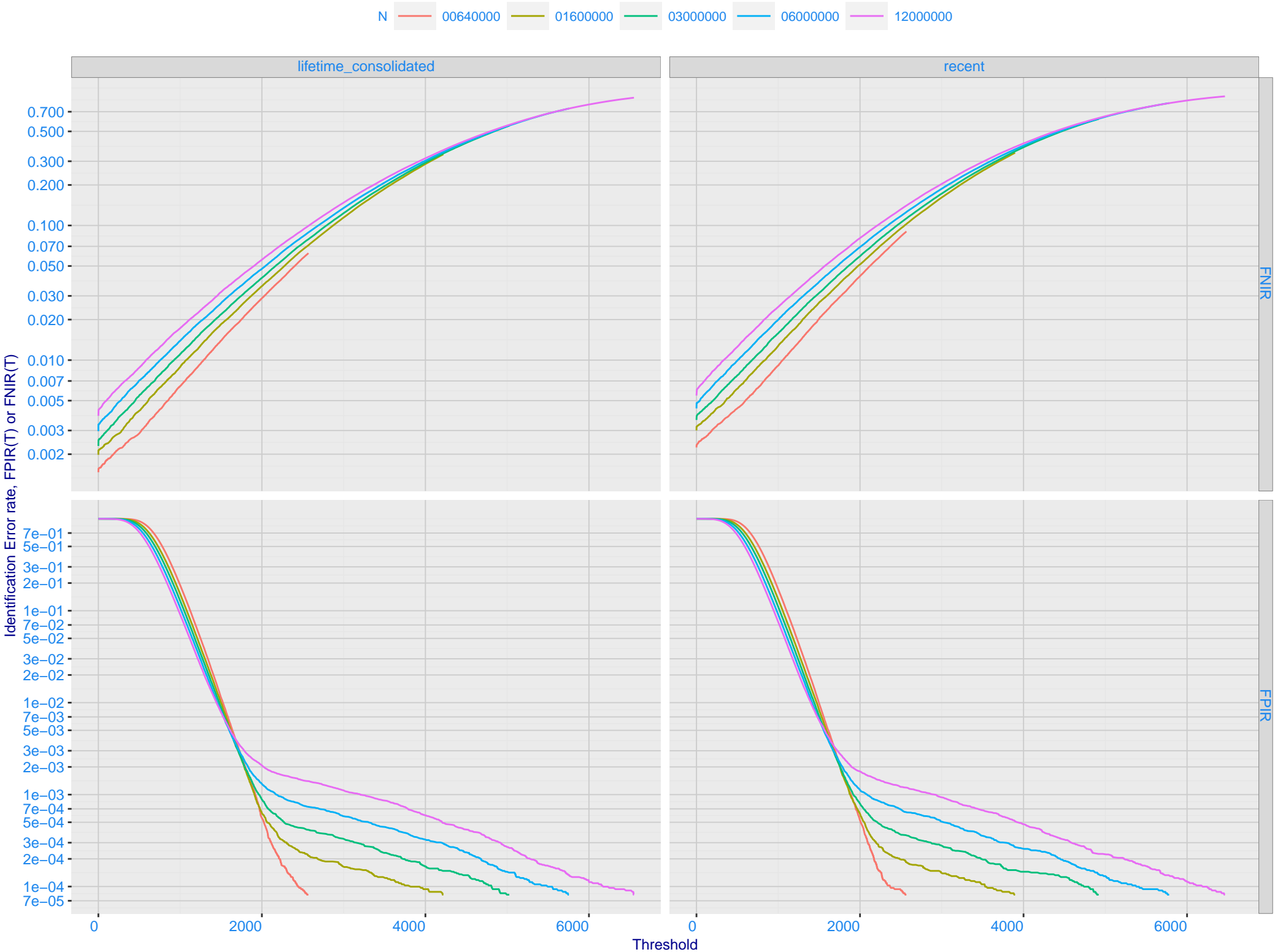
C: Evolution of accuracy for IDEMIA algorithms on three datasets 2018 – present



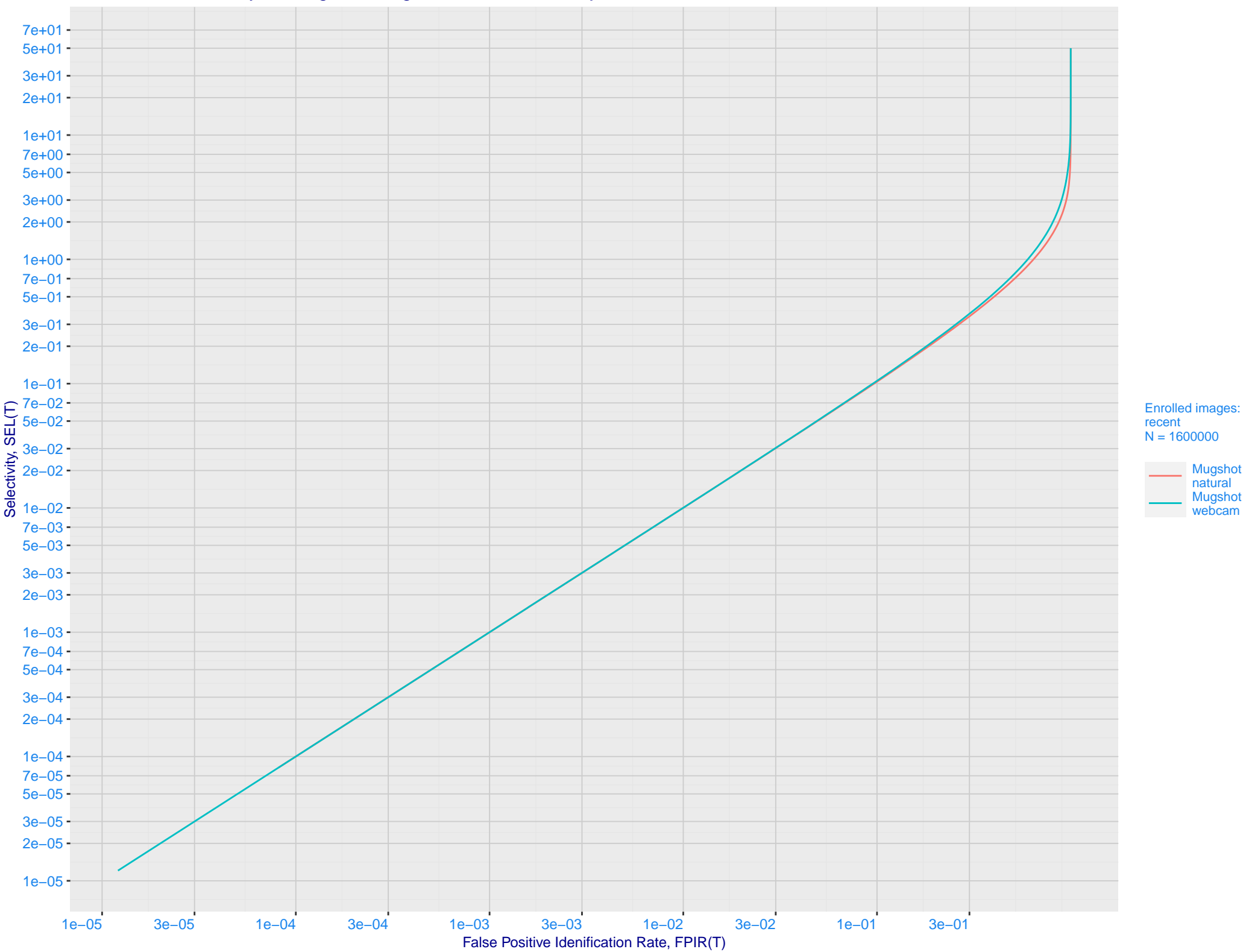
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals



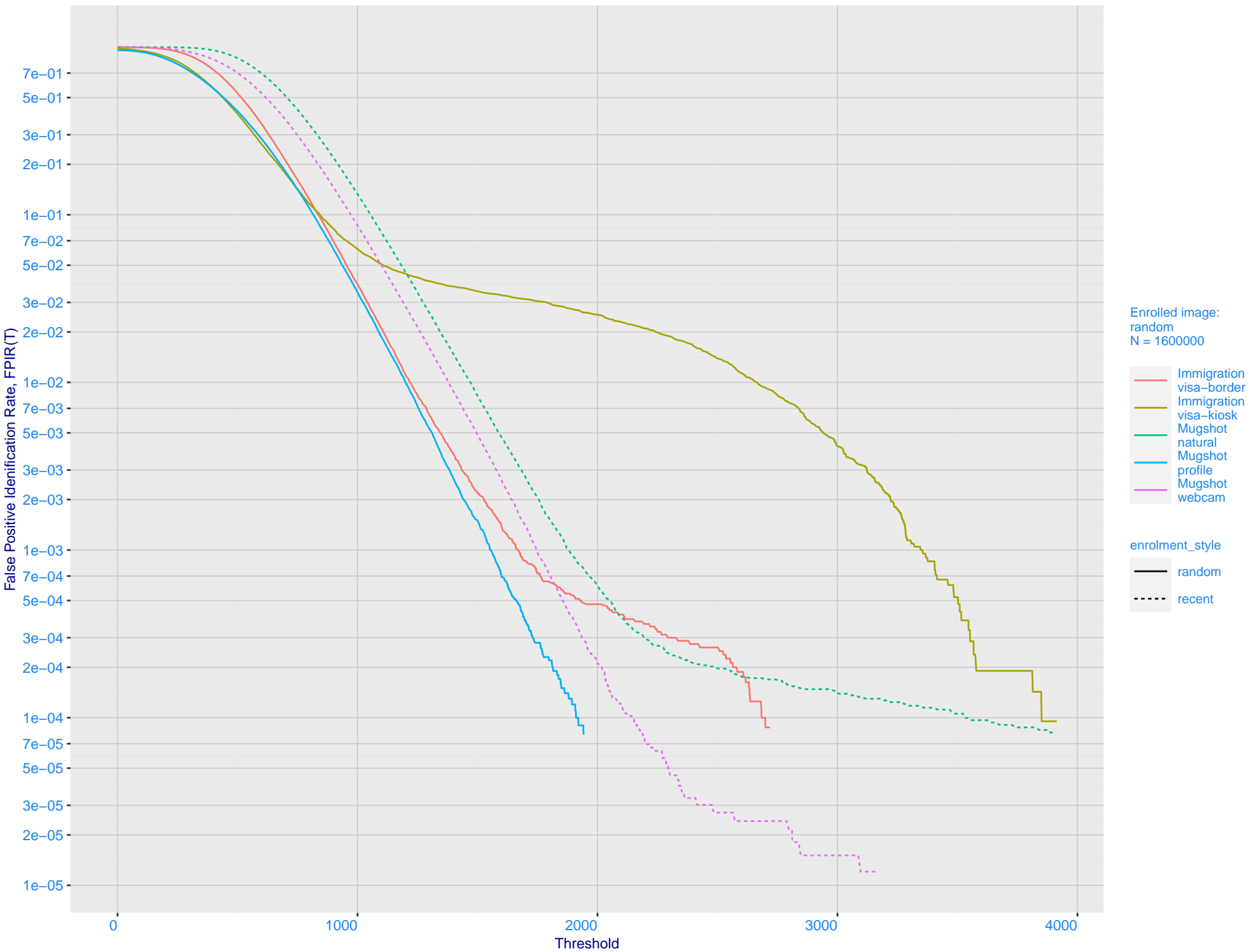
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images



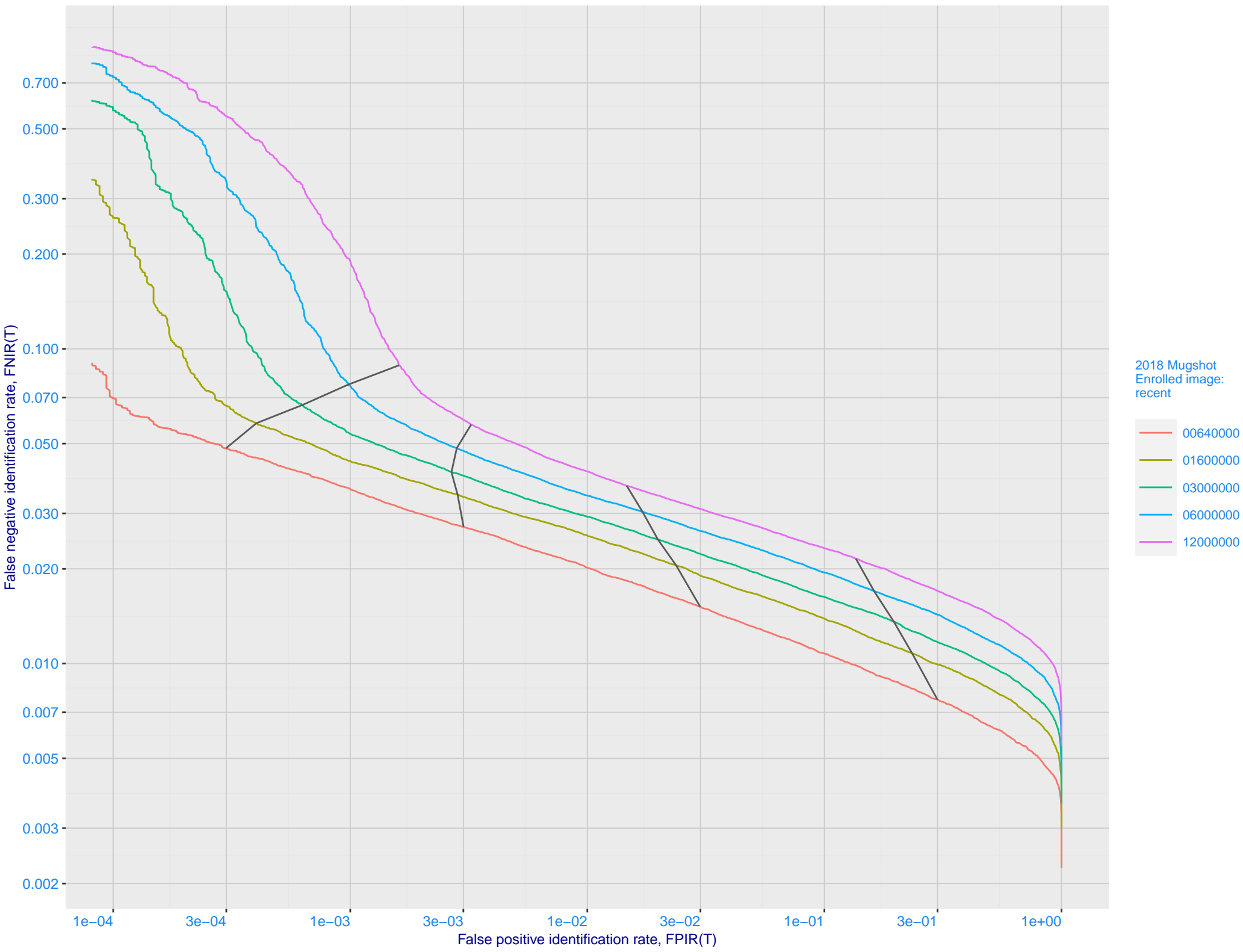
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate



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

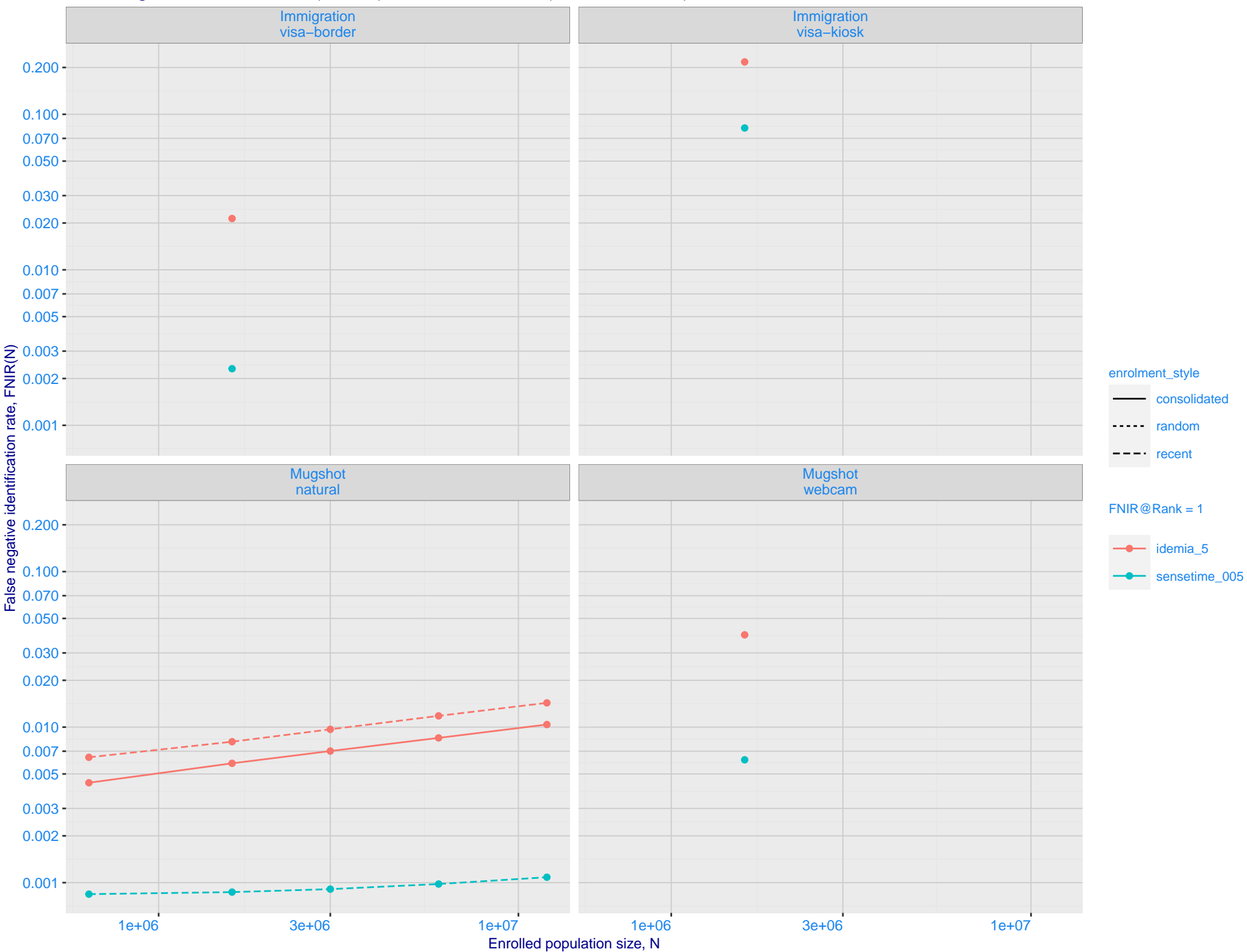


H: DET for Mugshot natural images and various N. Links connect points of equal threshold.

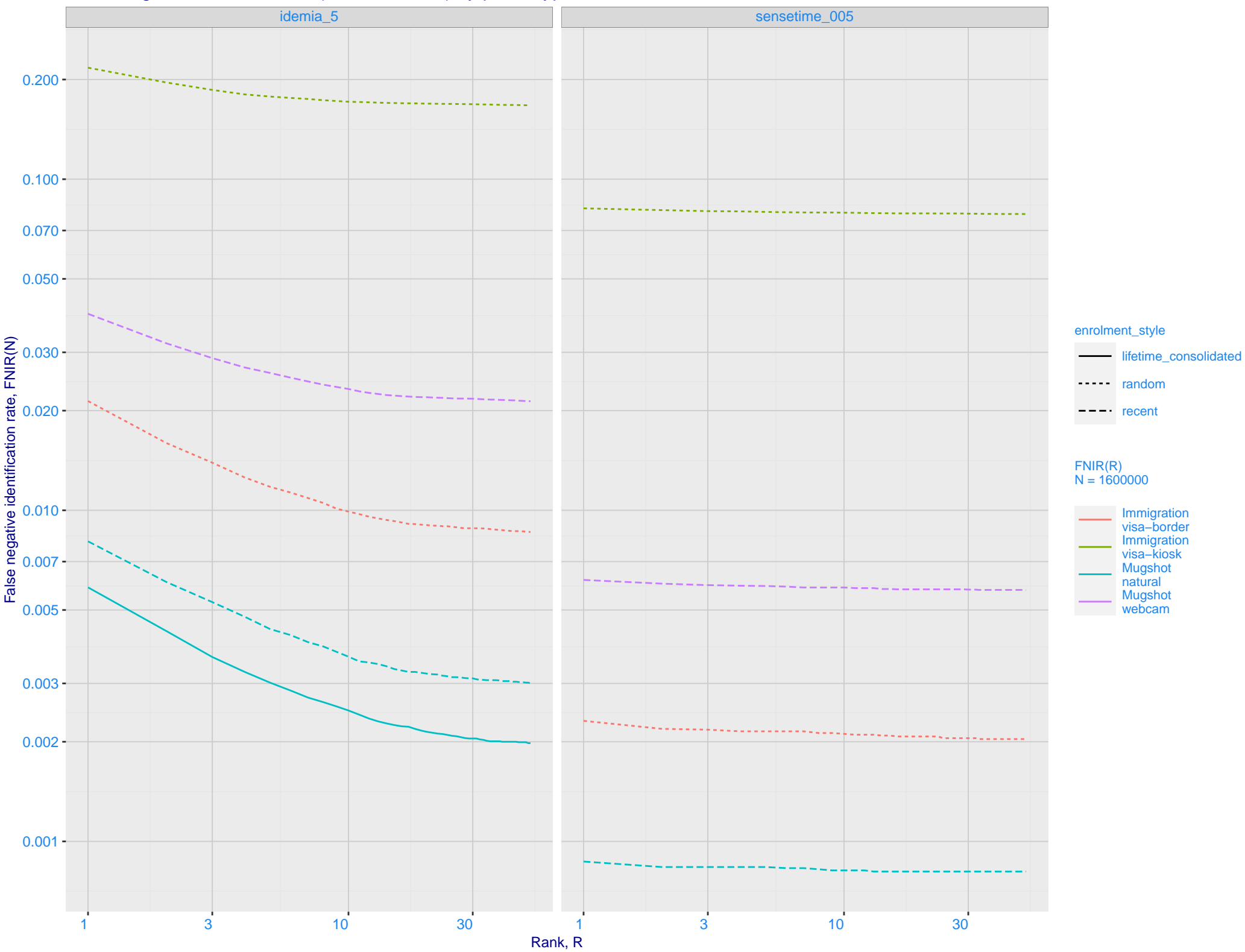




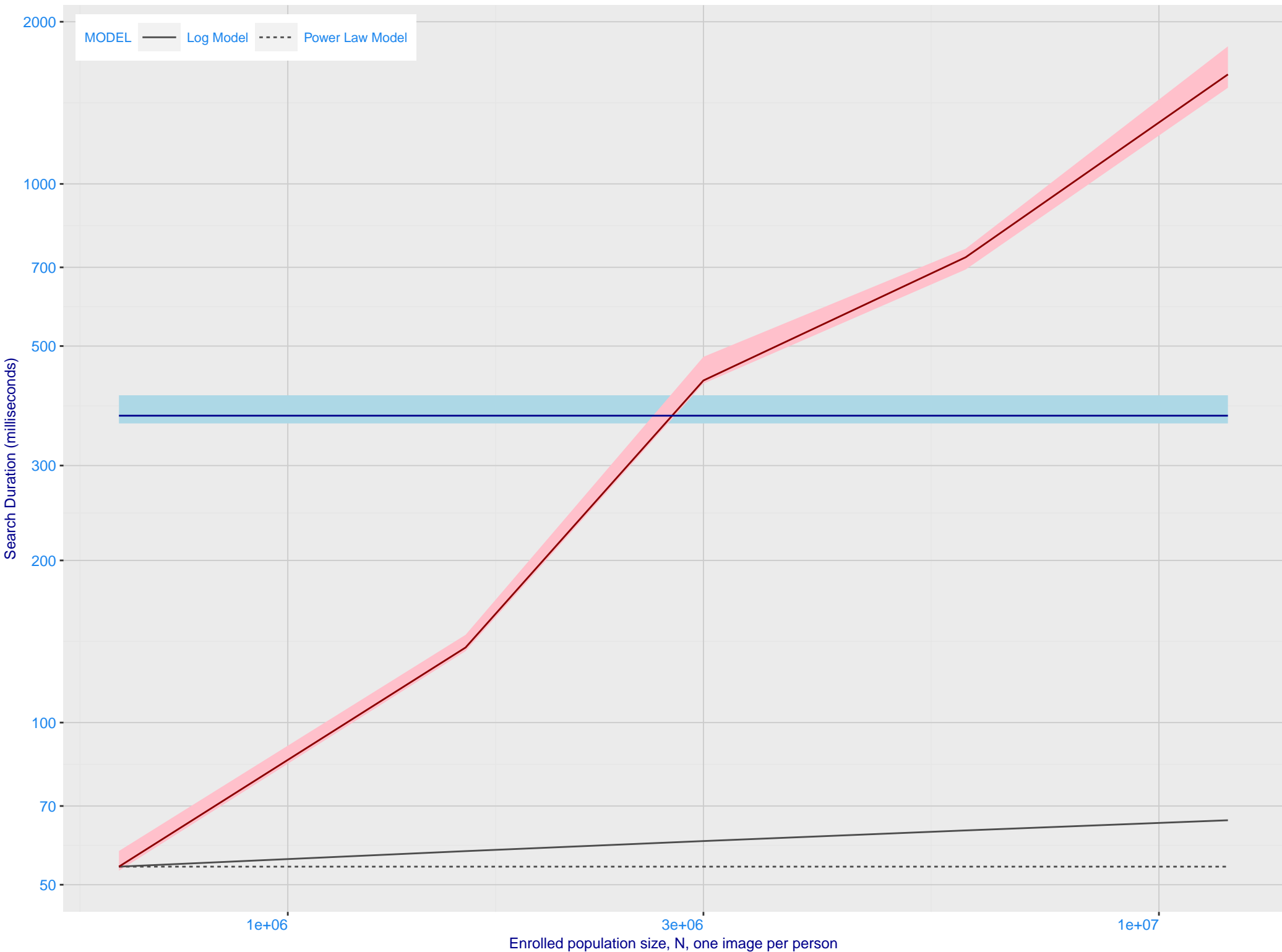
# I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime\_005)



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

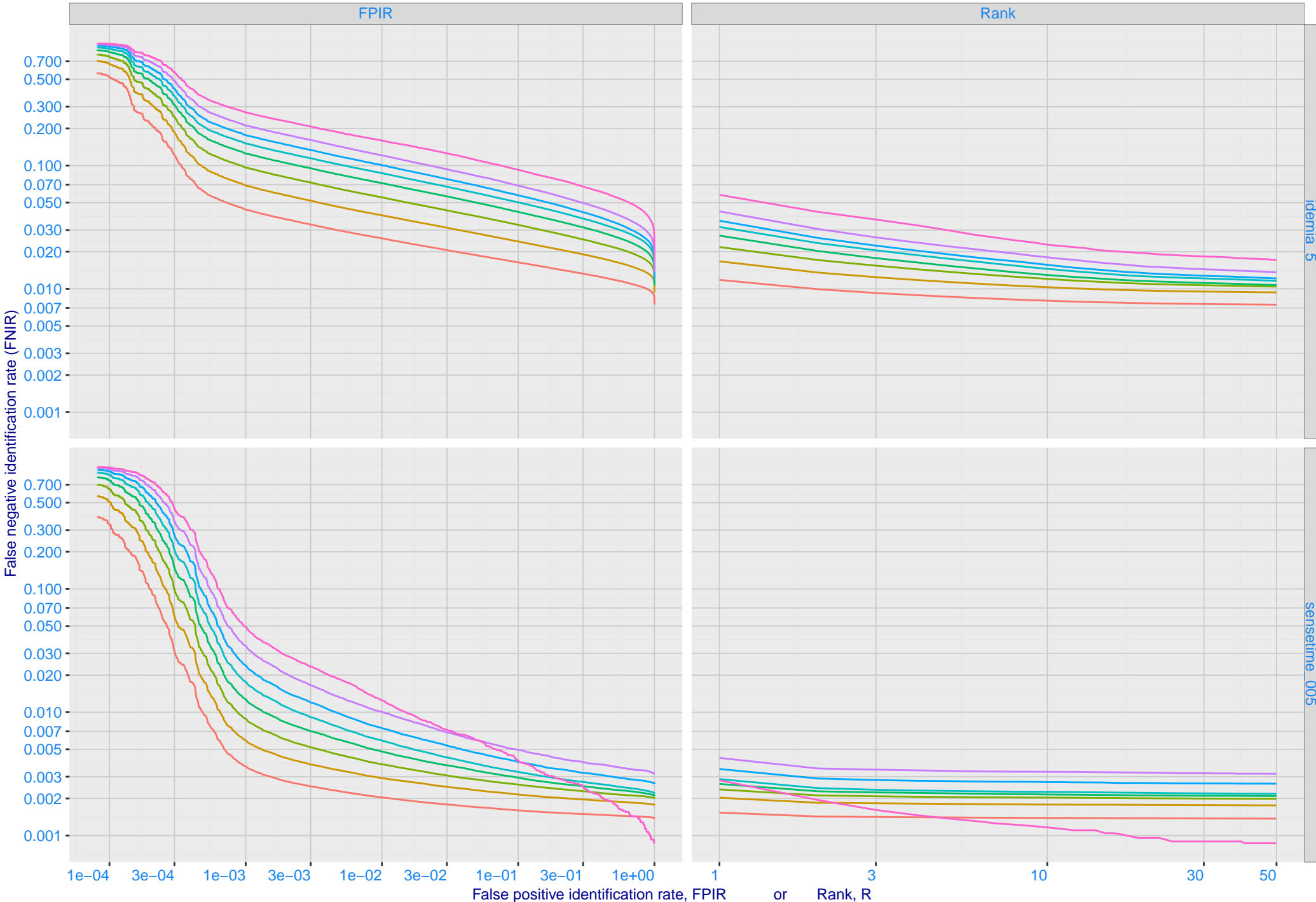


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



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

