

A: Datasheet

Algorithm: rankone\_5

Developer: Rank One Computing

Submission Date: 2018\_10\_24

Template size: 133 bytes

Template time (2.5 percentile): 89 msec

Template time (median): 92 msec

Template time (97.5 percentile): 103 msec

Investigation:

Frontal mugshot ranking 119 (out of 259) -- FNIR(1600000, 0, 1) = 0.0094 vs. lowest 0.0009 from sensetime\_005

Mugshot webcam ranking 130 (out of 221) -- FNIR(1600000, 0, 1) = 0.0407 vs. lowest 0.0062 from sensetime\_005

Mugshot profile ranking 178 (out of 190) -- FNIR(1600000, 0, 1) = 0.9859 vs. lowest 0.0591 from sensetime\_005

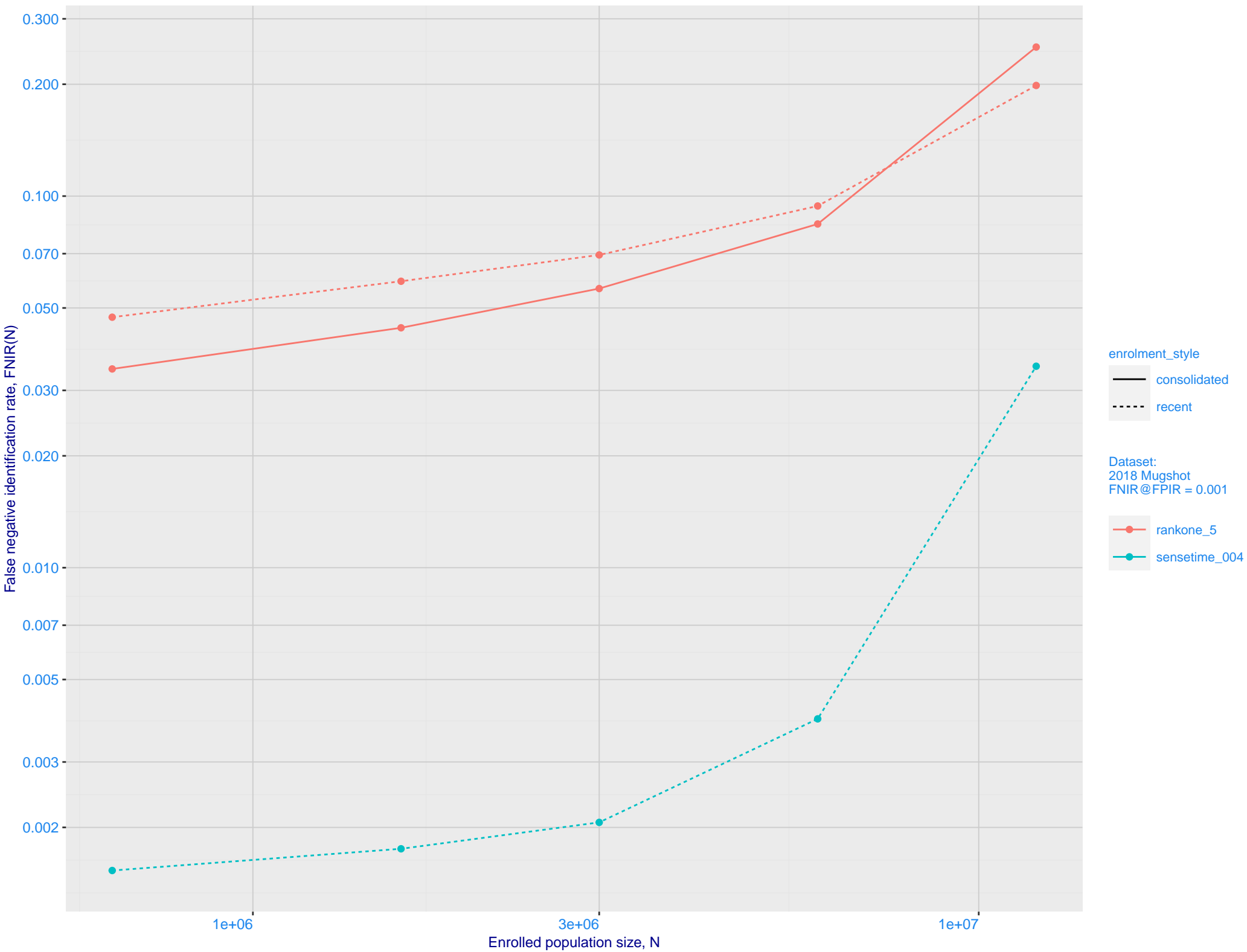
Identification:

Frontal mugshot ranking 96 (out of 259) -- FNIR(1600000, T, L+1) = 0.0590, FPIR=0.001000 vs. lowest 0.0018 from sensetime\_004

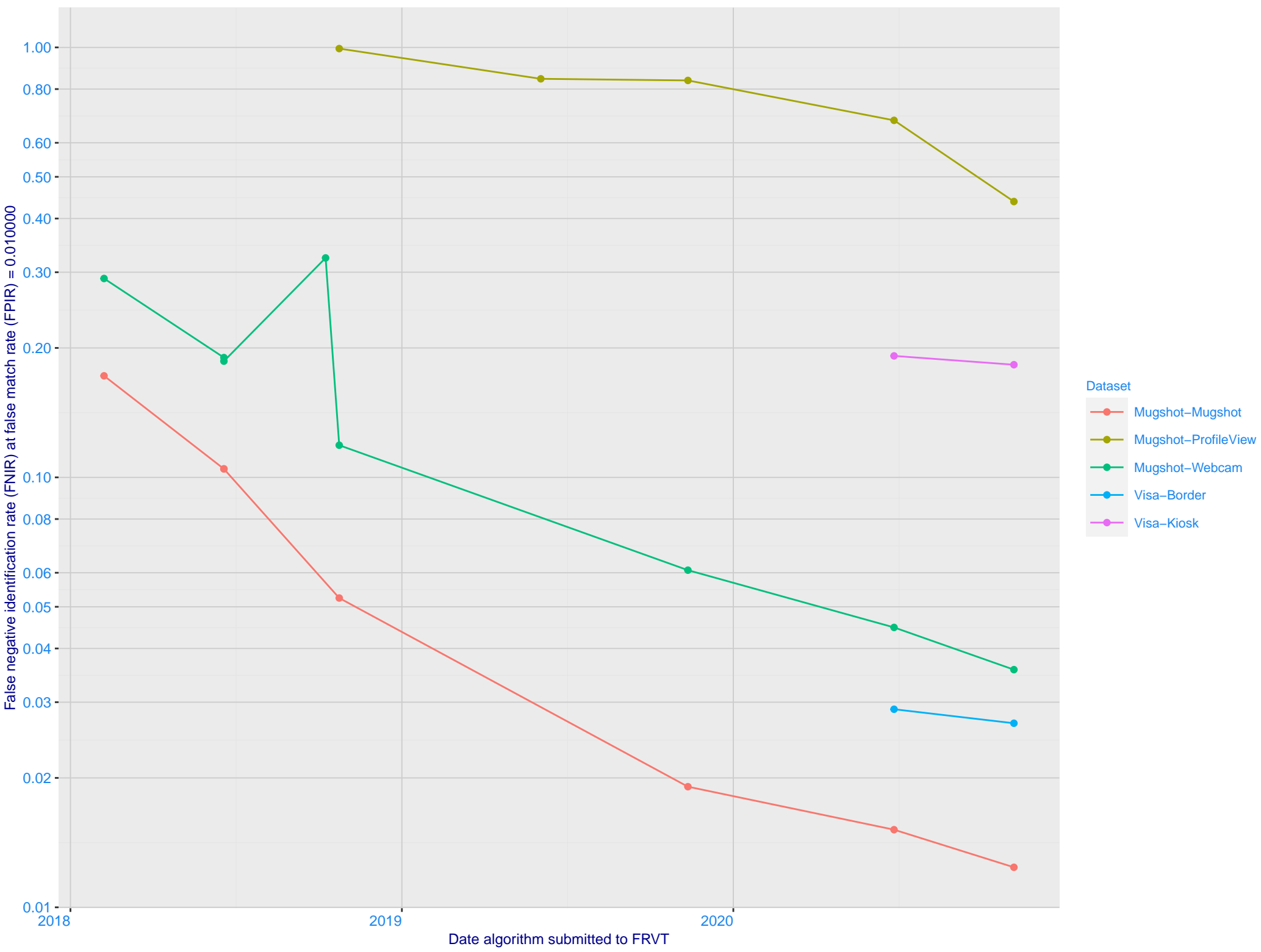
Mugshot webcam ranking 117 (out of 219) -- FNIR(1600000, T, L+1) = 0.1731, FPIR=0.001000 vs. lowest 0.0122 from sensetime\_003

Mugshot profile ranking 114 (out of 189) -- FNIR(1600000, T, L+1) = 0.9979, FPIR=0.001000 vs. lowest 0.1733 from sensetime\_005

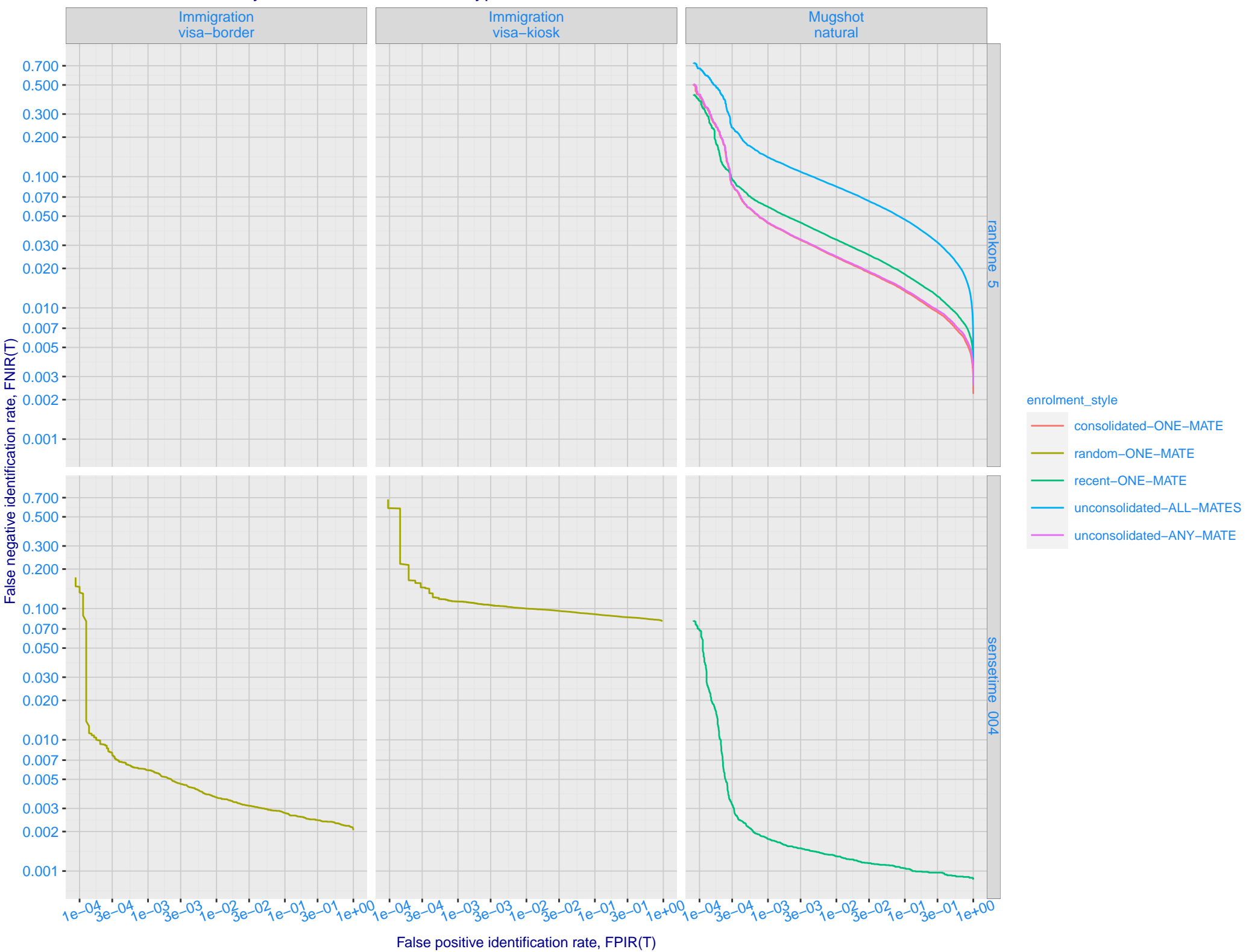
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime\_004)



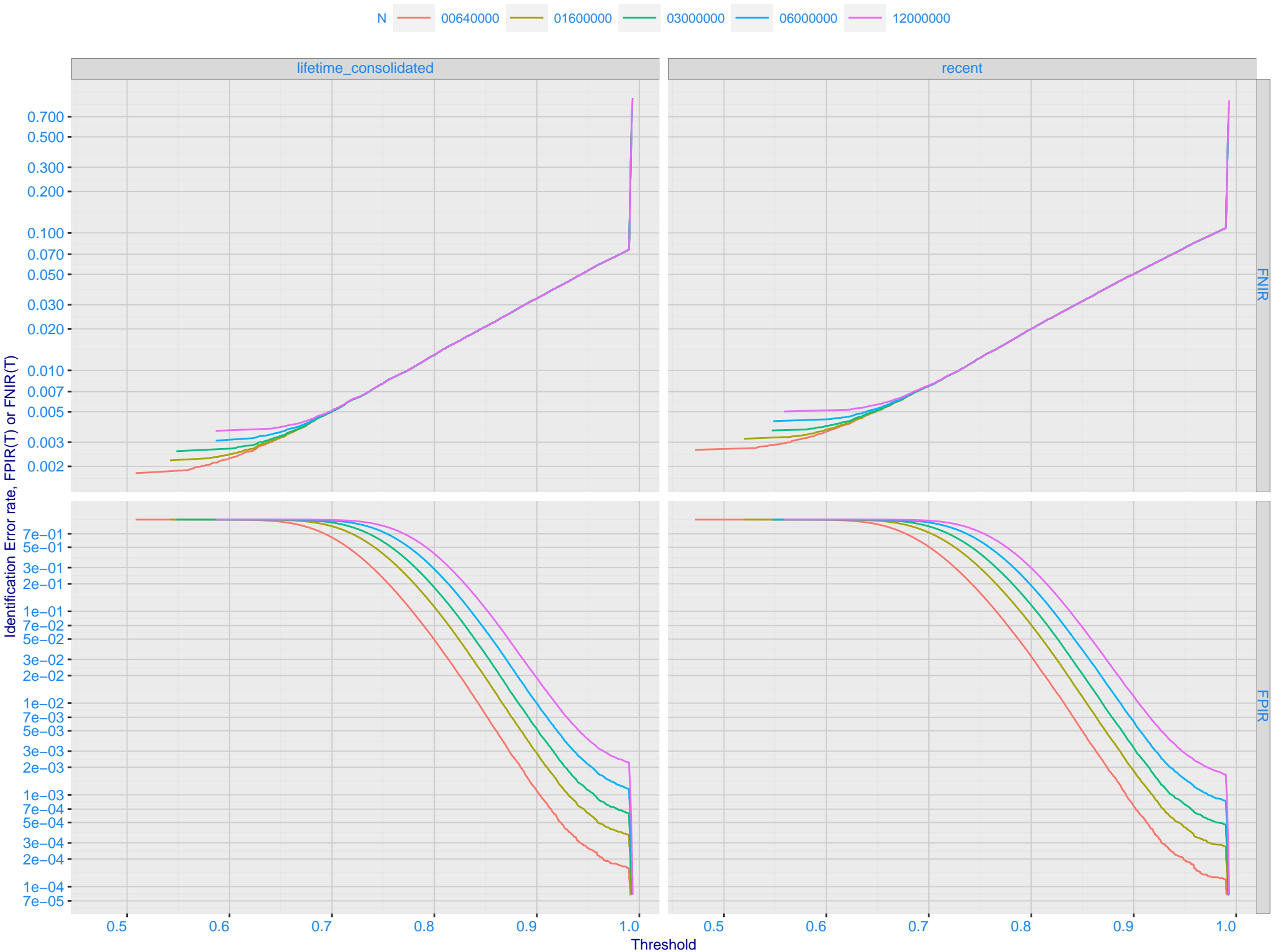
### C: Evolution of accuracy for RANKONE algorithms on three datasets 2018 – present



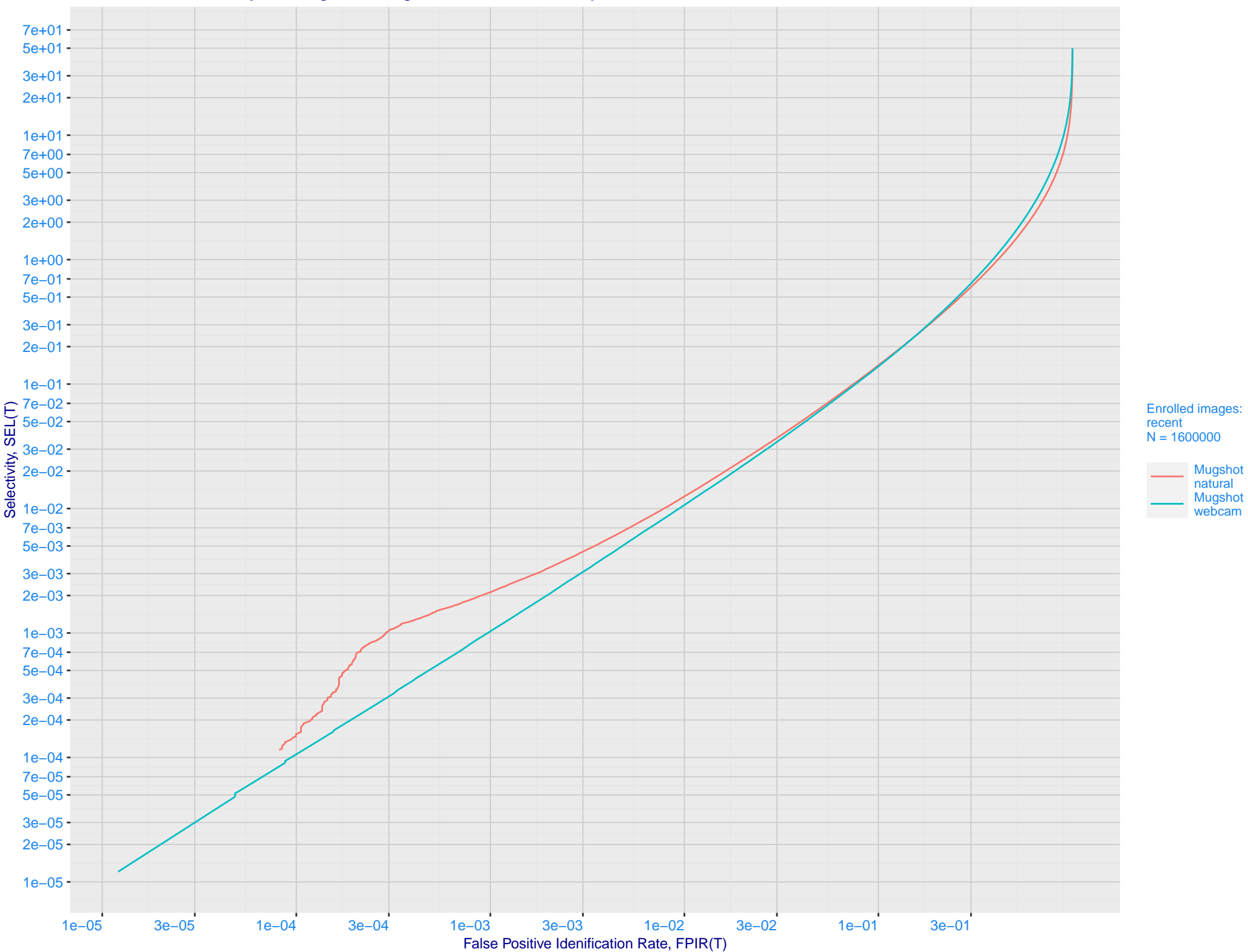
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals




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



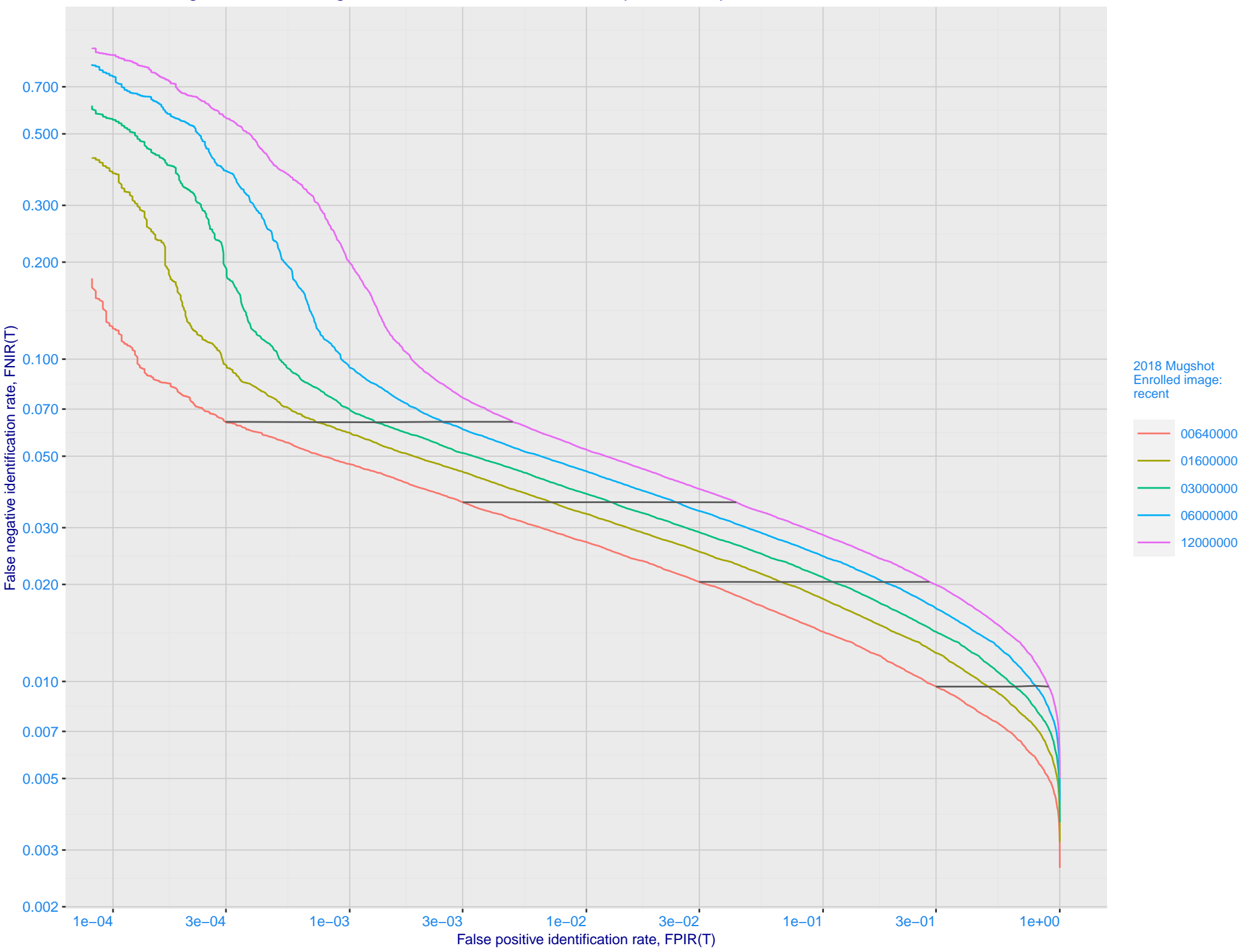


Mugshot natural  
Mugshot profile  
Mugshot webcam

enrolment\_style

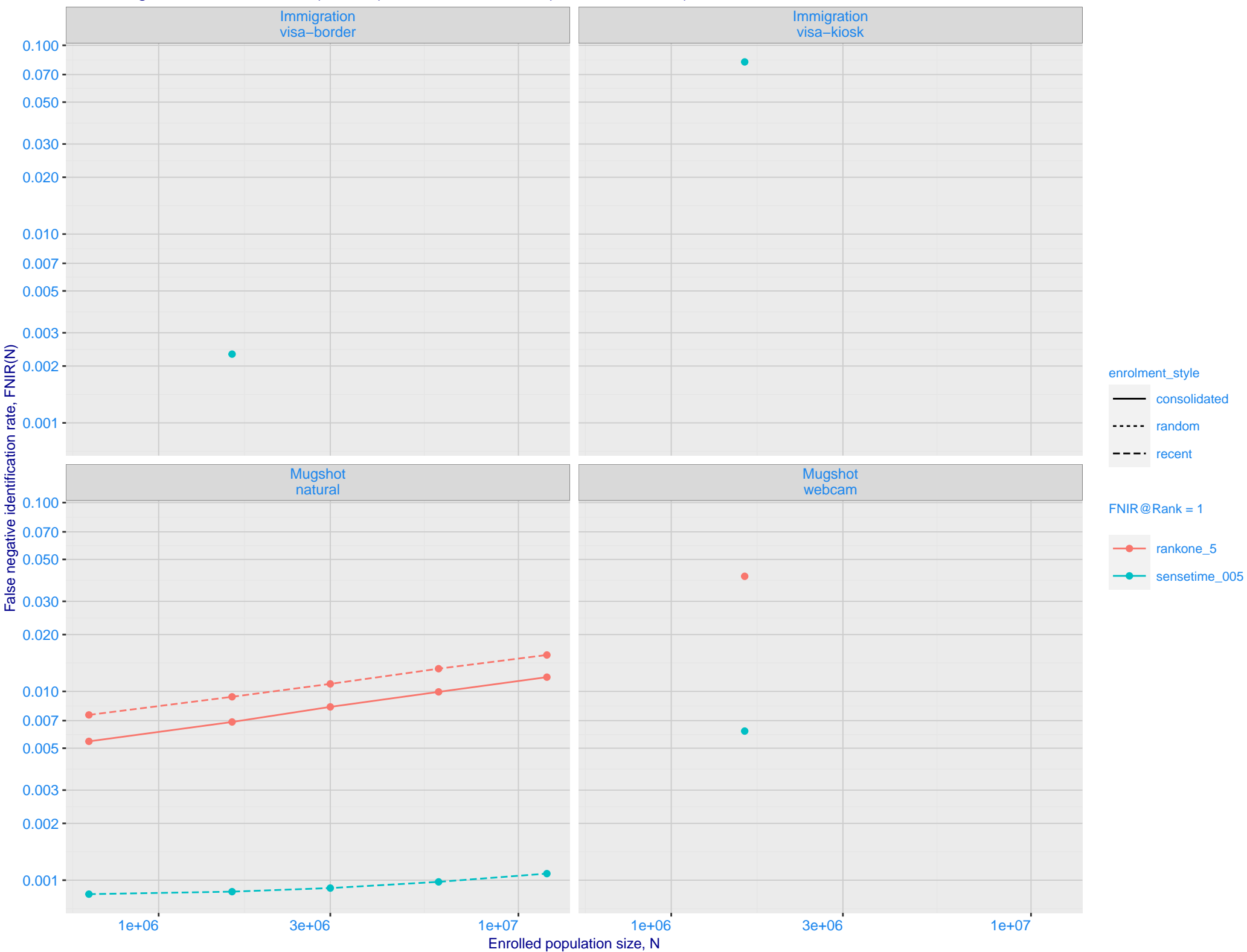
—	random
- - - -	recent

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

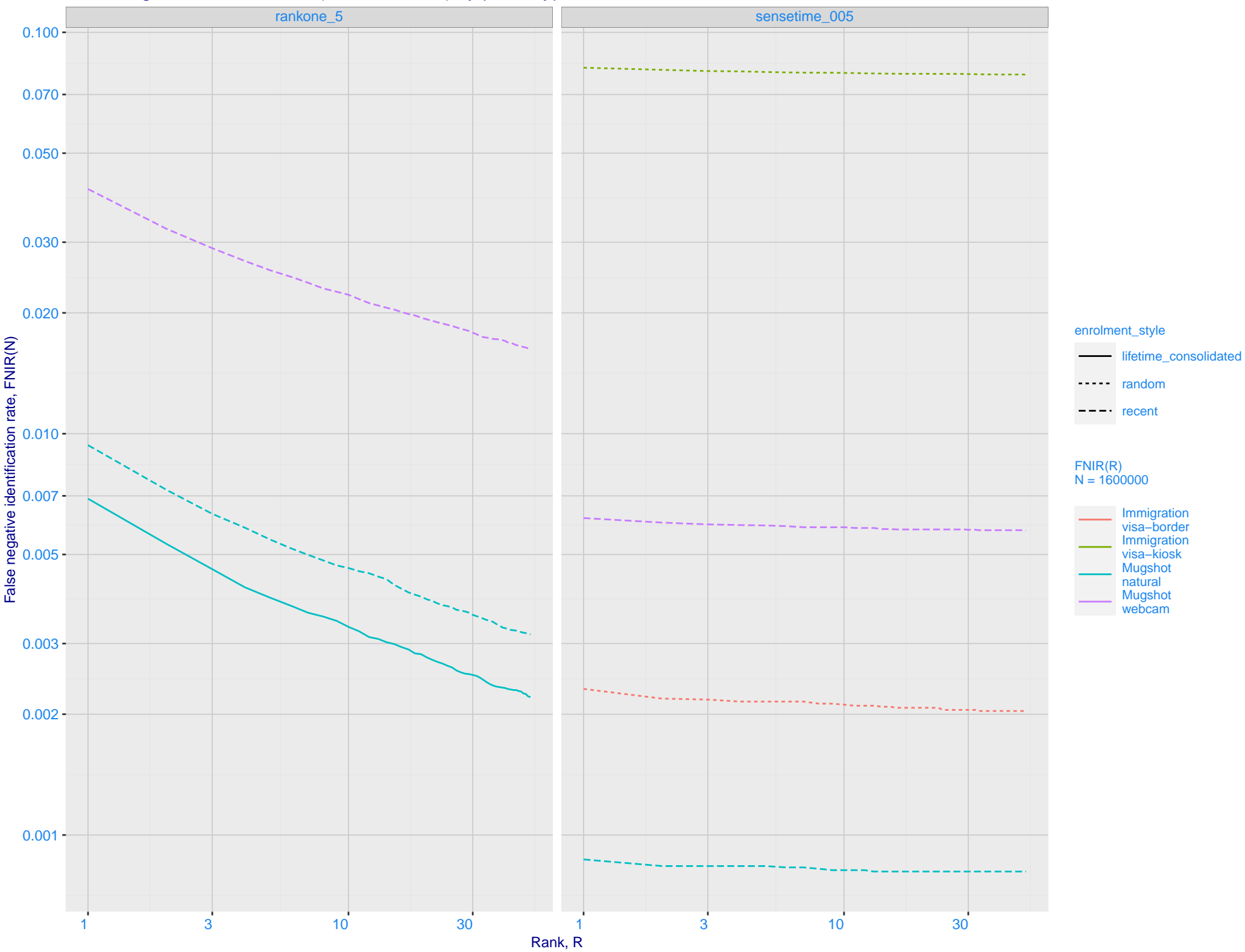




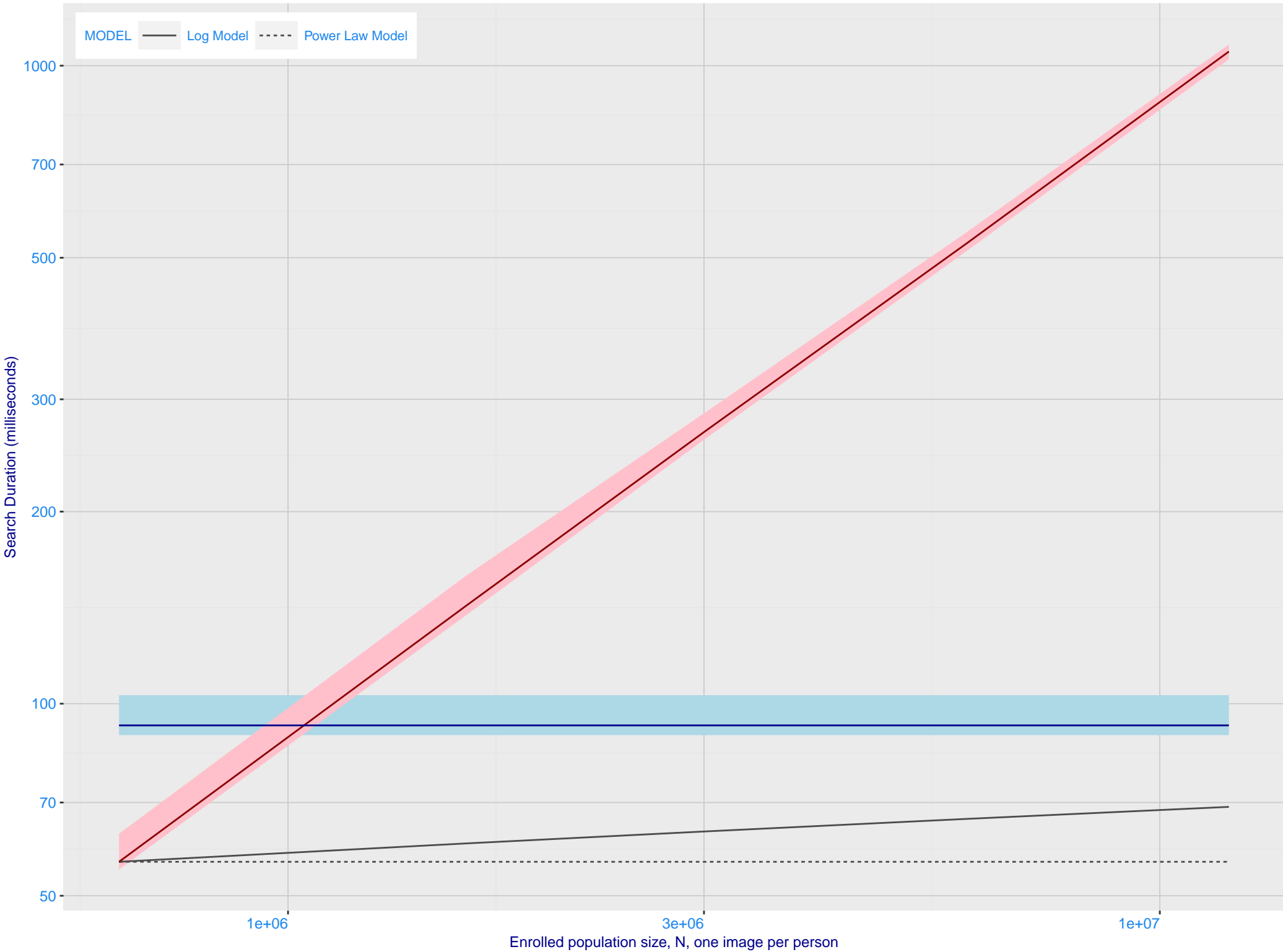
# I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime\_005)



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

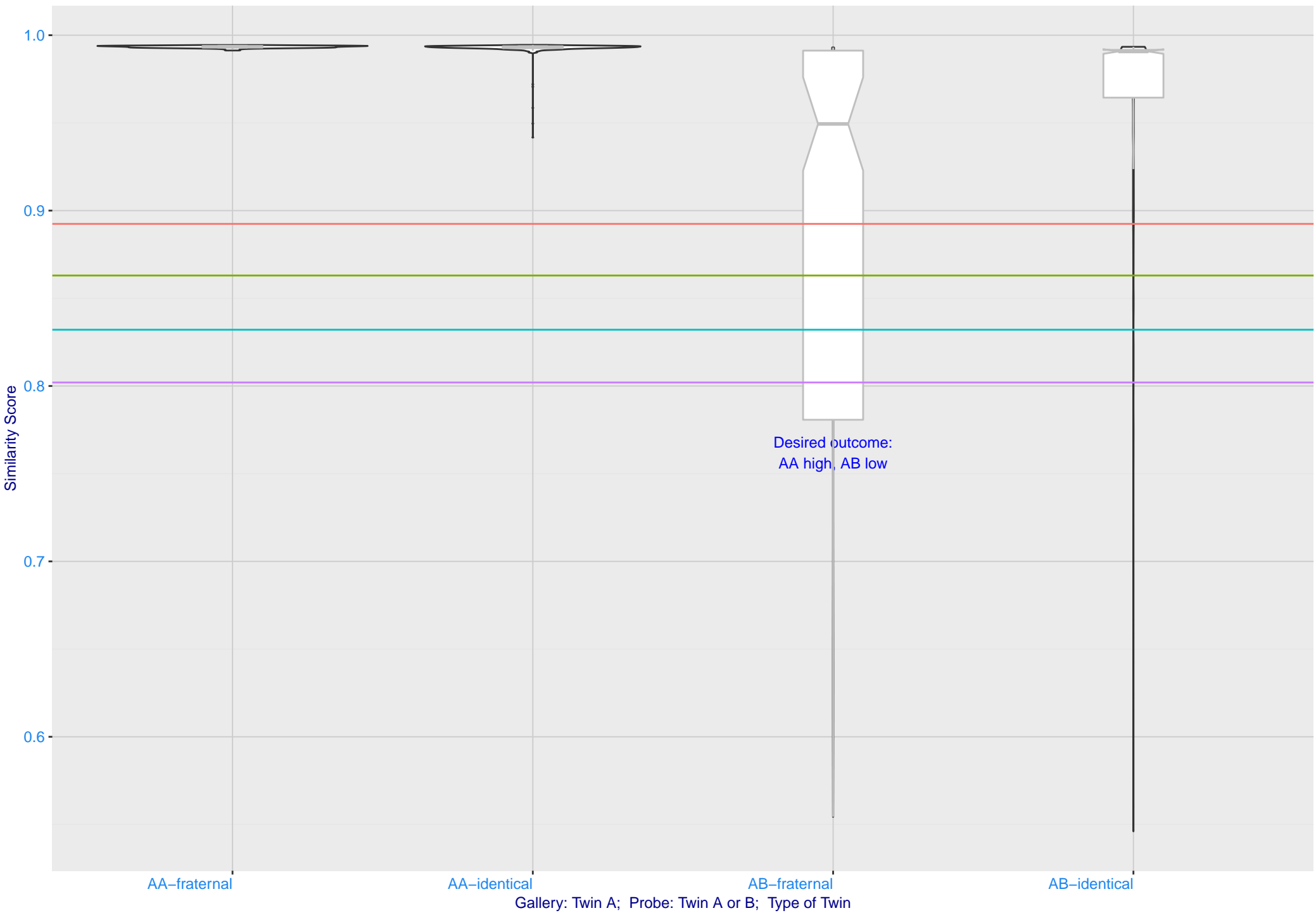


Template duration; search duration vs. N. The blue and pink ribbon covers 95 percent of observed measurements. The template generation time is independent of N. The log and power-law models are fit to the first two (N,T) observations



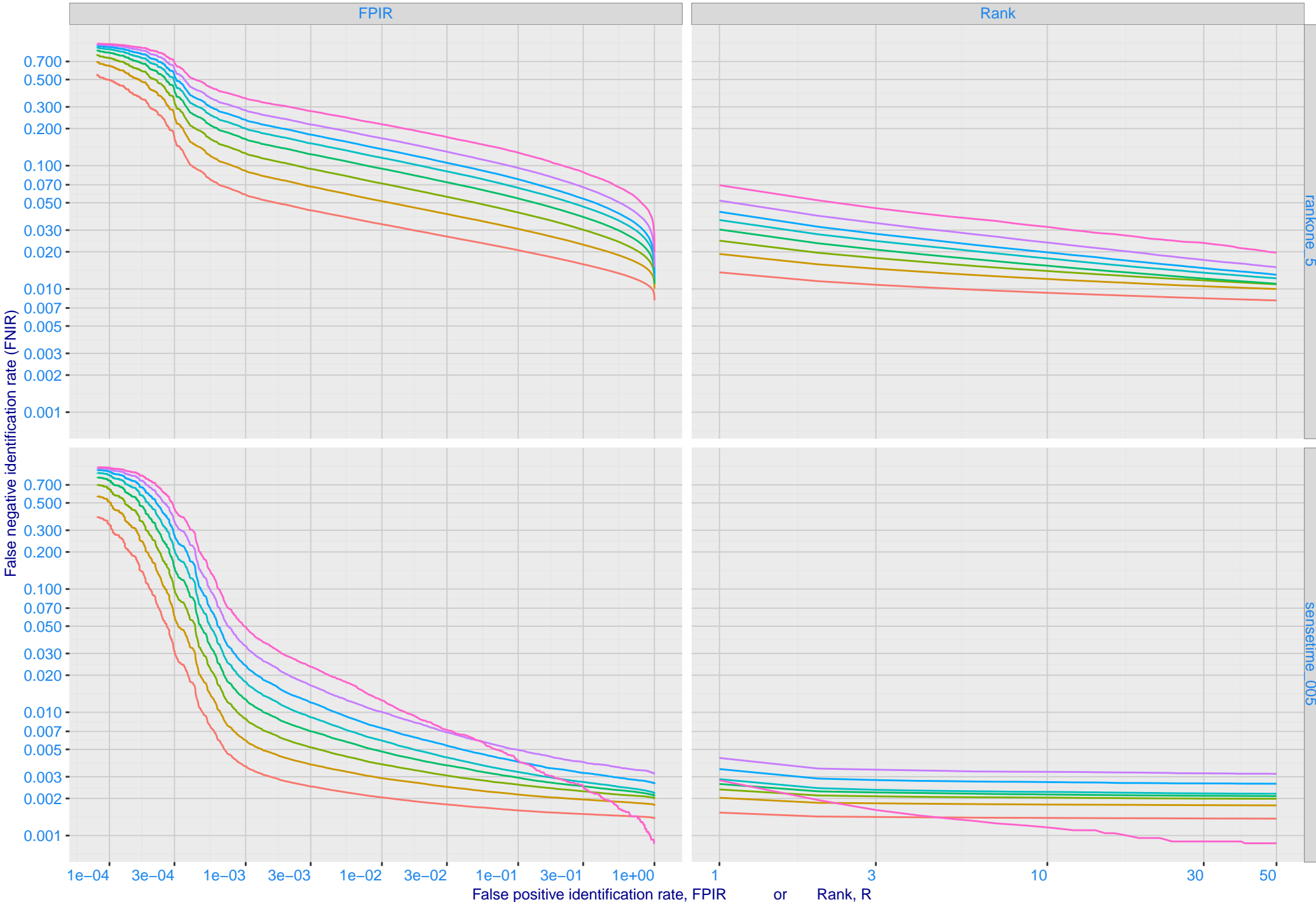
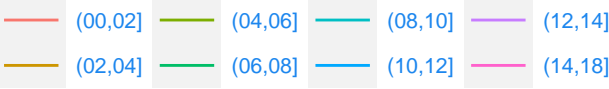
# Solo-Twin and Twin-Twin similarity scores

TVAL — FPIR = 0.001 — FPIR = 0.003 — FPIR = 0.010 — FPIR = 0.030



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

