A: Datasheet

Algorithm: cognitec_2

Developer: Cognitec Systems GmbH

Submission Date: 2018_10_30

Template size: 2052 bytes

Template time (2.5 percentile): 222 msec

Template time (median): 225 msec

Template time (97.5 percentile): 240 msec

Investigation:

Frontal mugshot ranking 85 (out of 259) –– FNIR(1600000, 0, 1) = 0.0057 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 95 (out of 221) –– FNIR(1600000, 0, 1) = 0.0251 vs. lowest 0.0062 from sensetime_005

Mugshot profile ranking 134 (out of 190) –– FNIR(1600000, 0, 1) = 0.9490 vs. lowest 0.0591 from sensetime_005
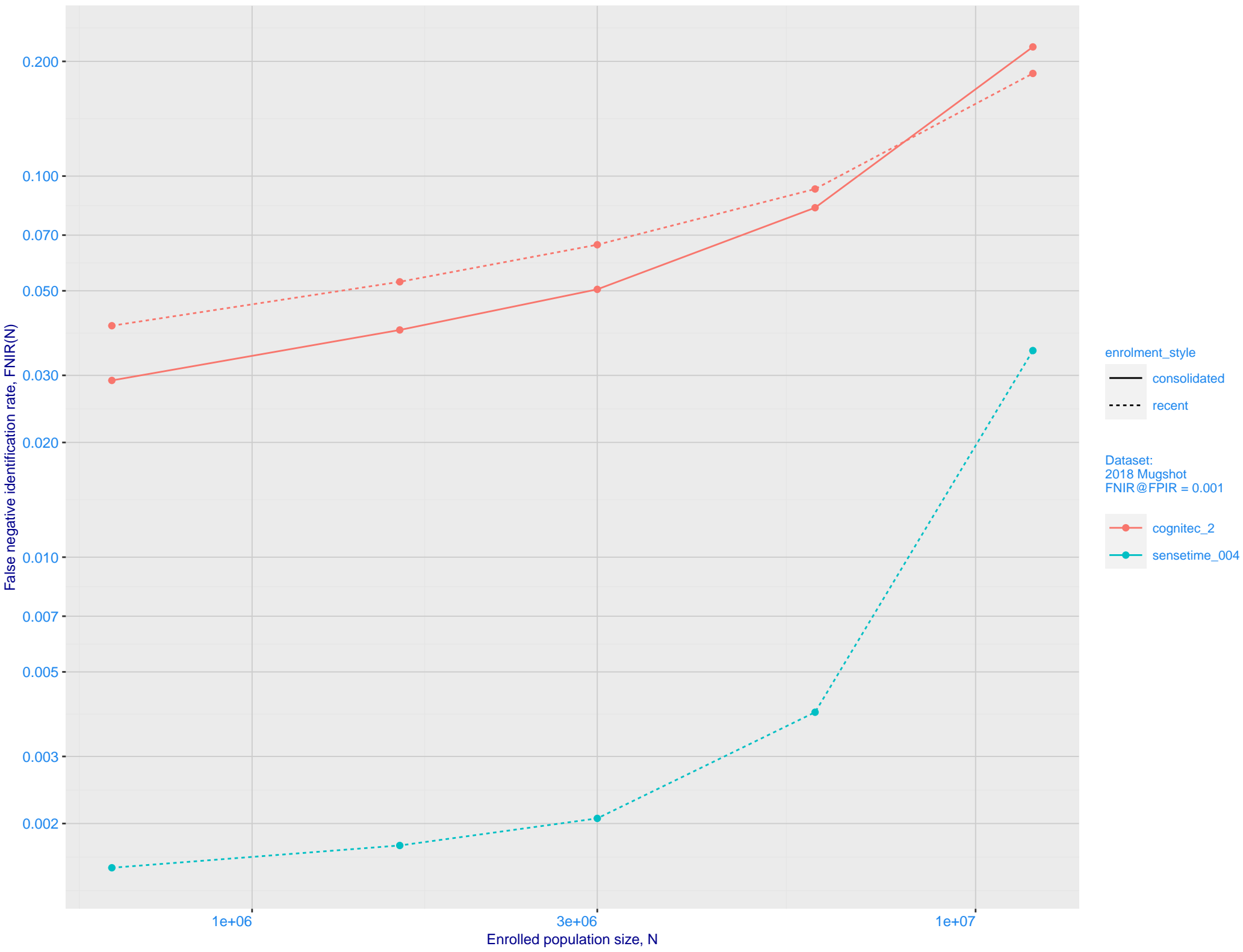
Identification:

Frontal mugshot ranking 85 (out of 259) –– FNIR(1600000, T, L+1) = 0.0528, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004
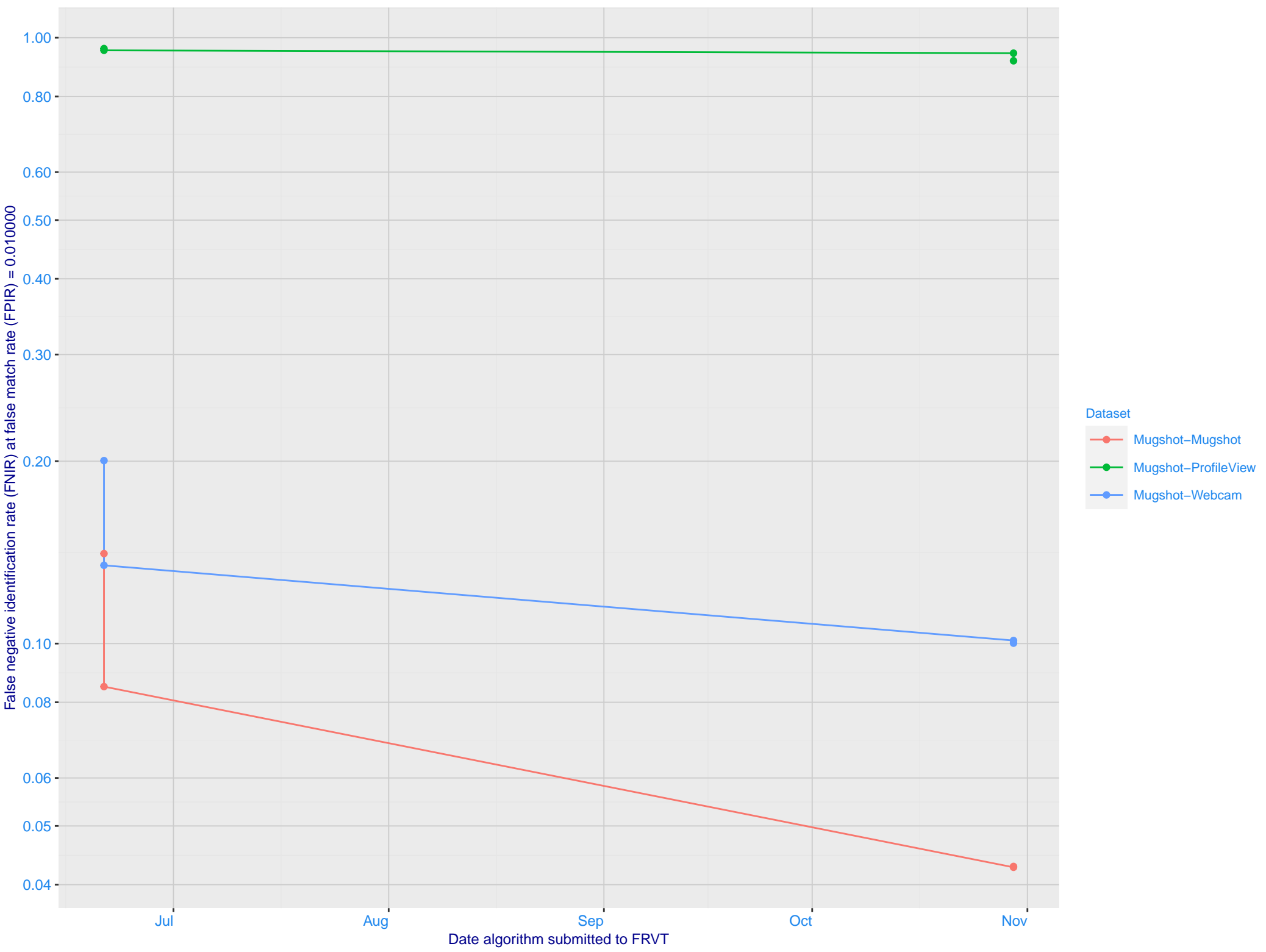
Mugshot webcam ranking 119 (out of 219) –– FNIR(1600000, T, L+1) = 0.1780, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Mugshot profile ranking 156 (out of 189) –– FNIR(1600000, T, L+1) = 0.9998, FPIR=0.001000 vs. lowest 0.1733 from sensetime_005
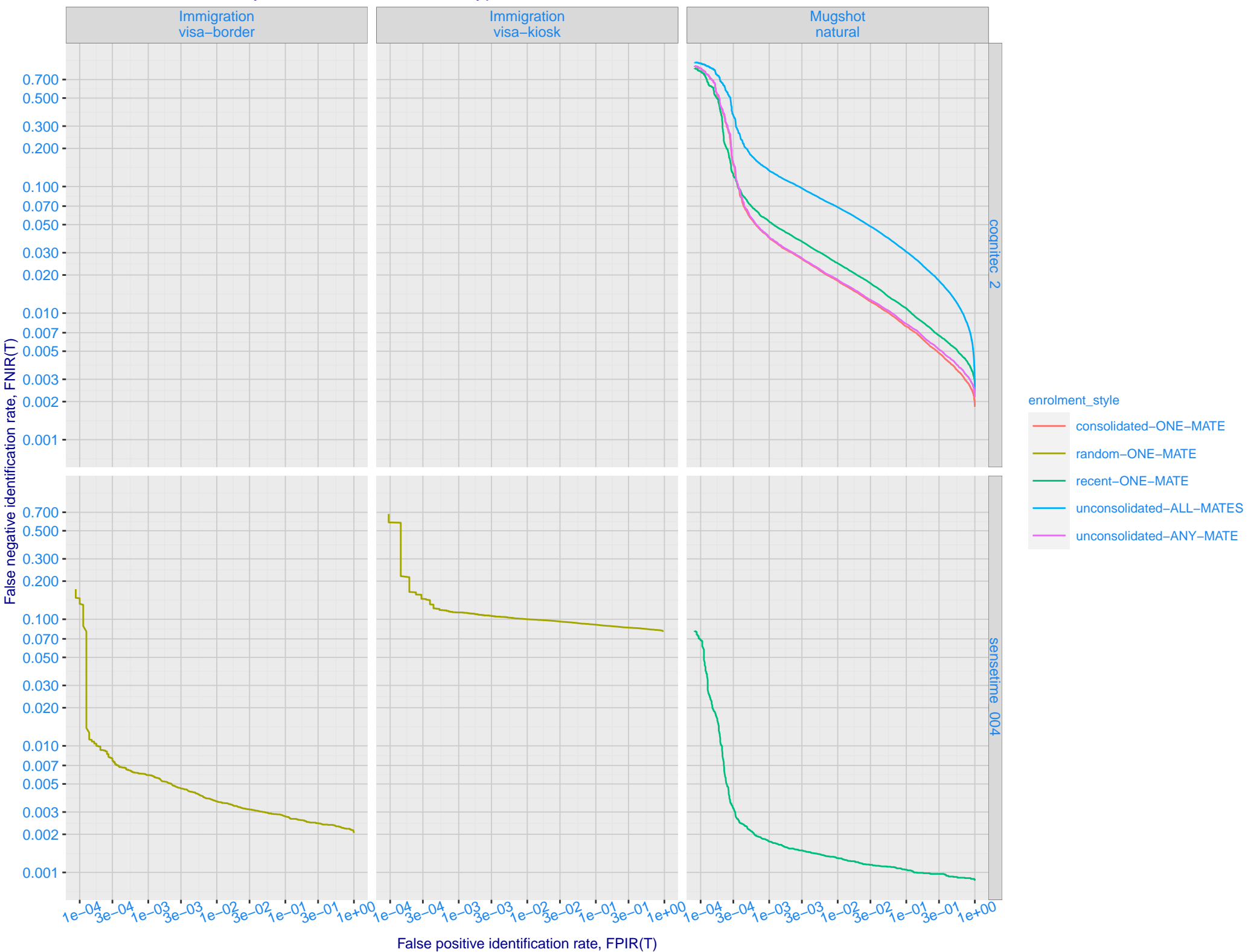
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
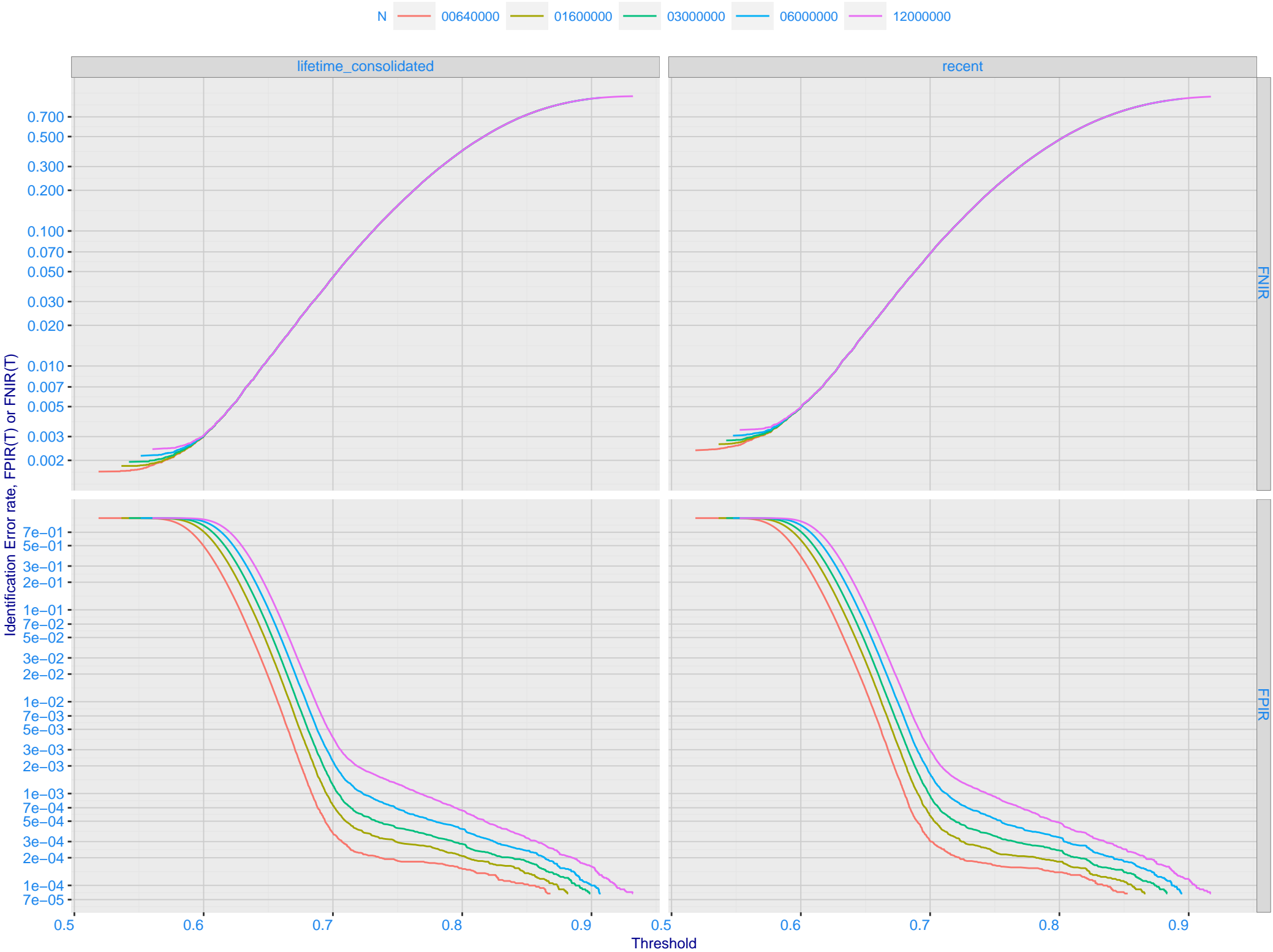
C: Evolution of accuracy for COGNITEC algorithms on three datasets 2018 – present
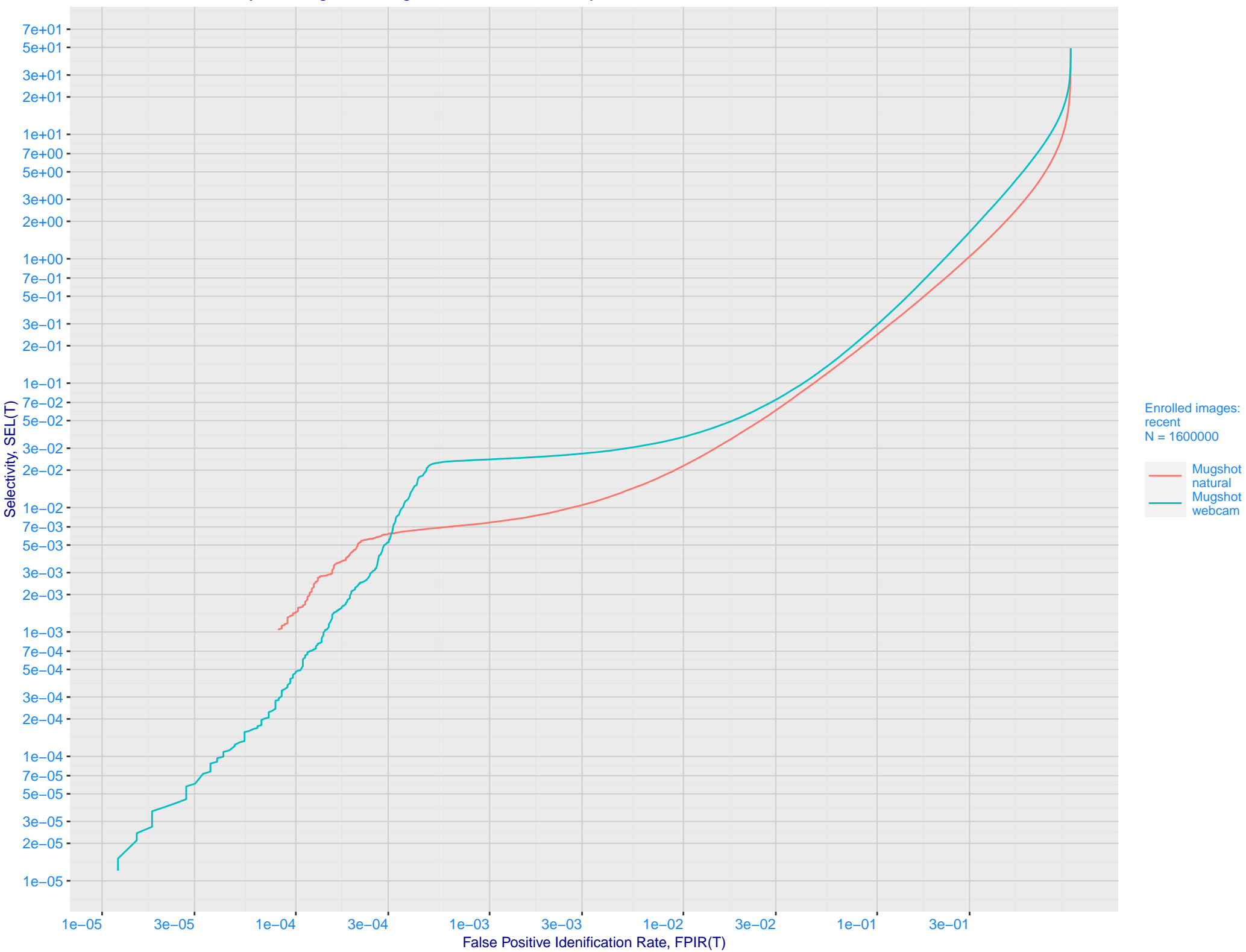
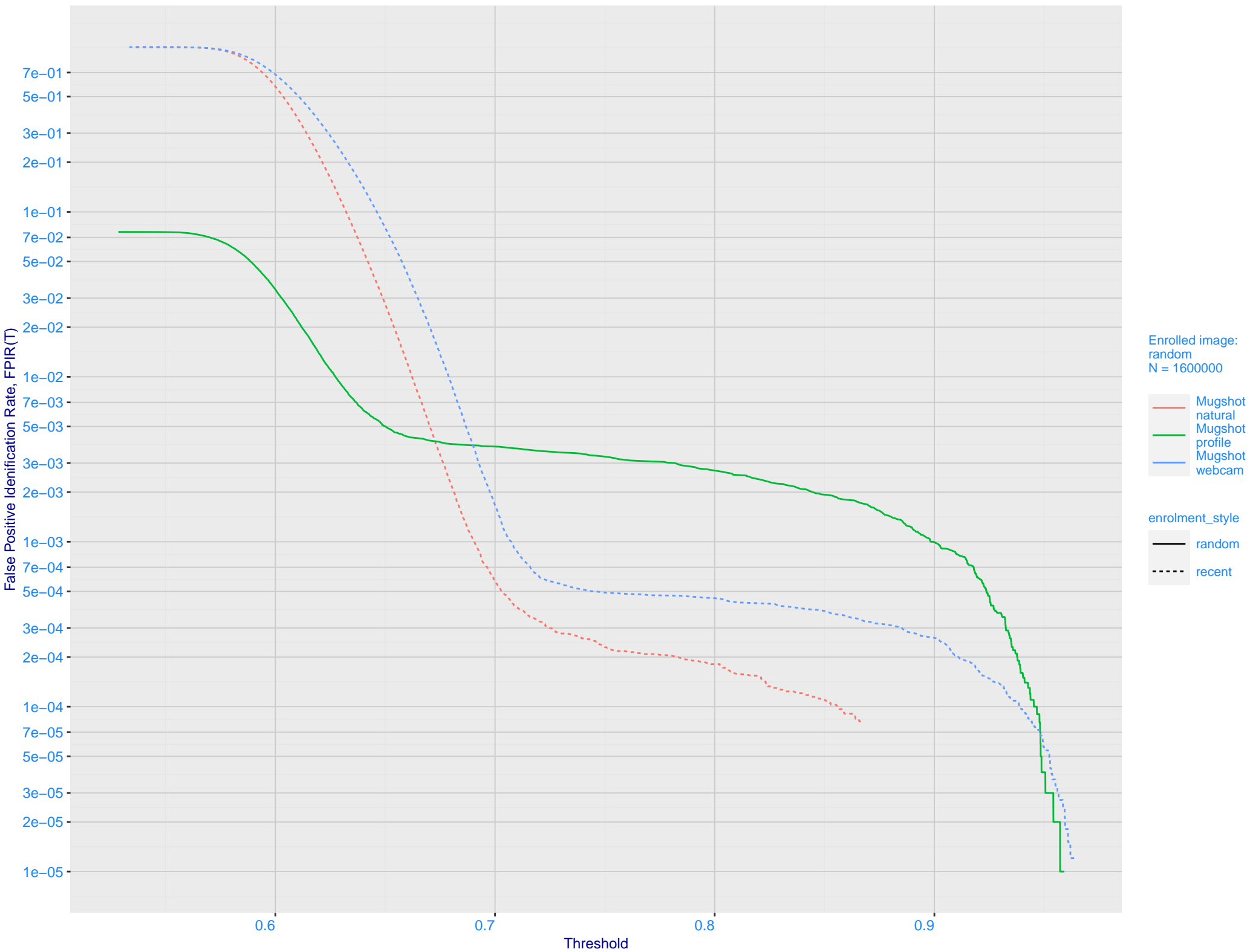D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
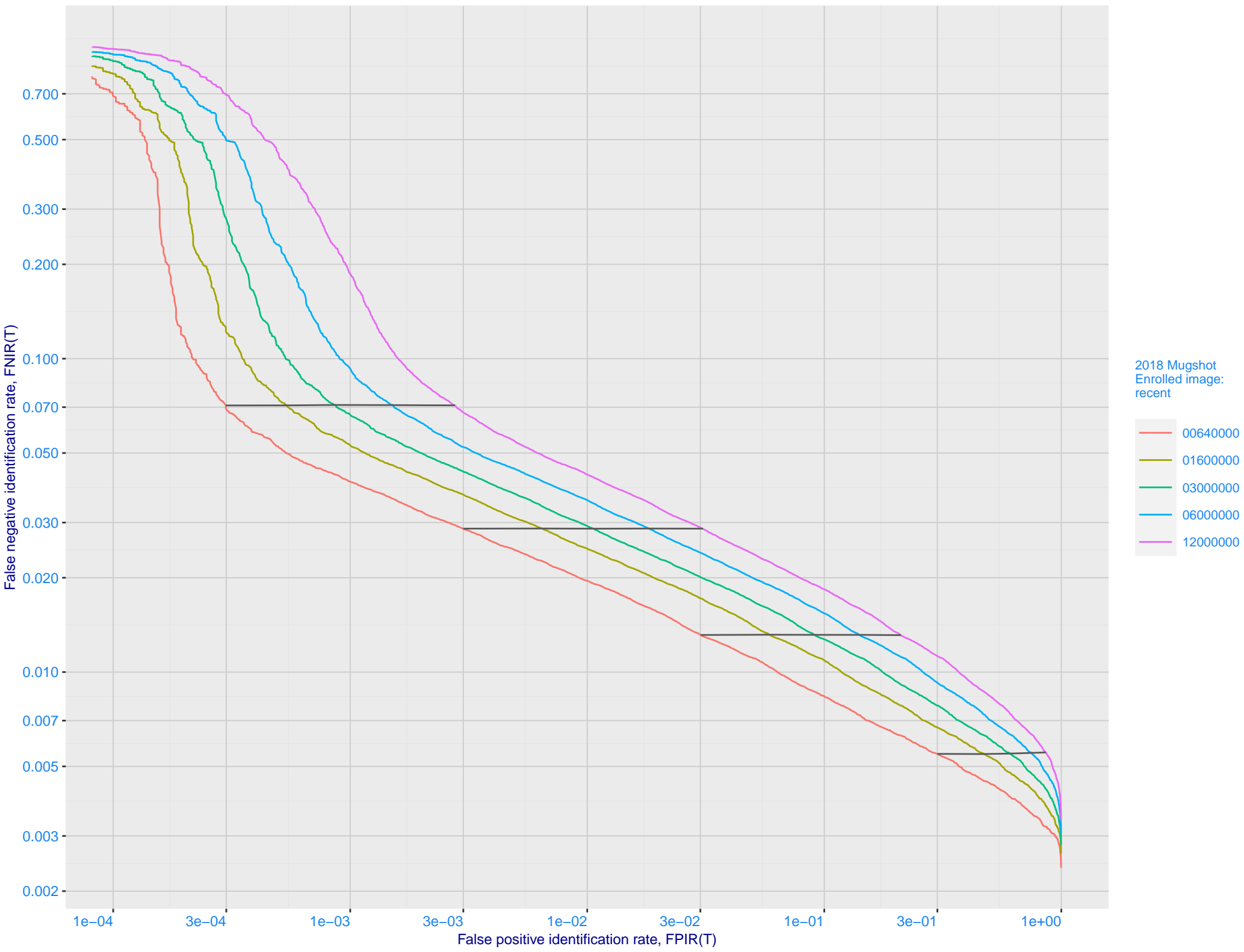
F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate
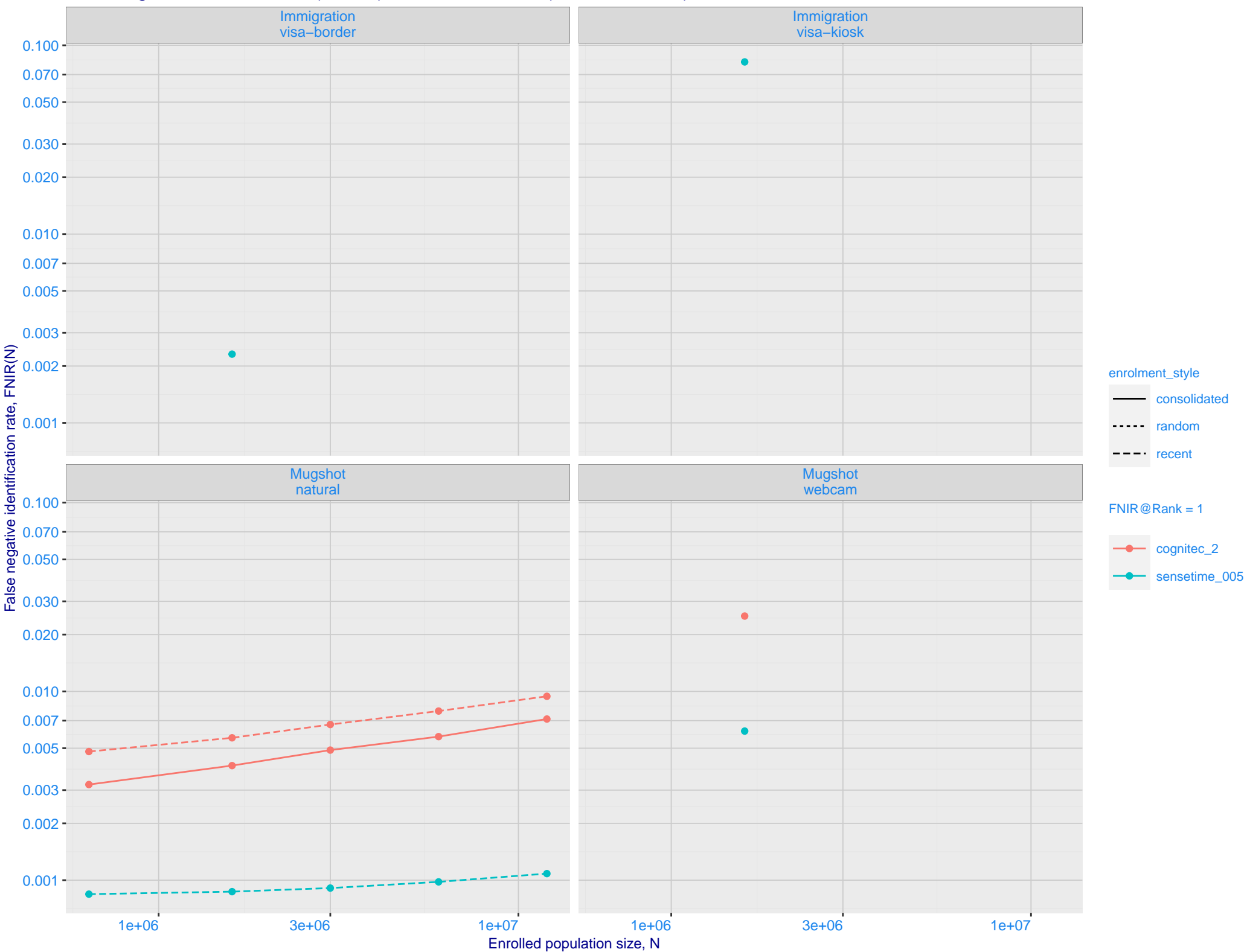
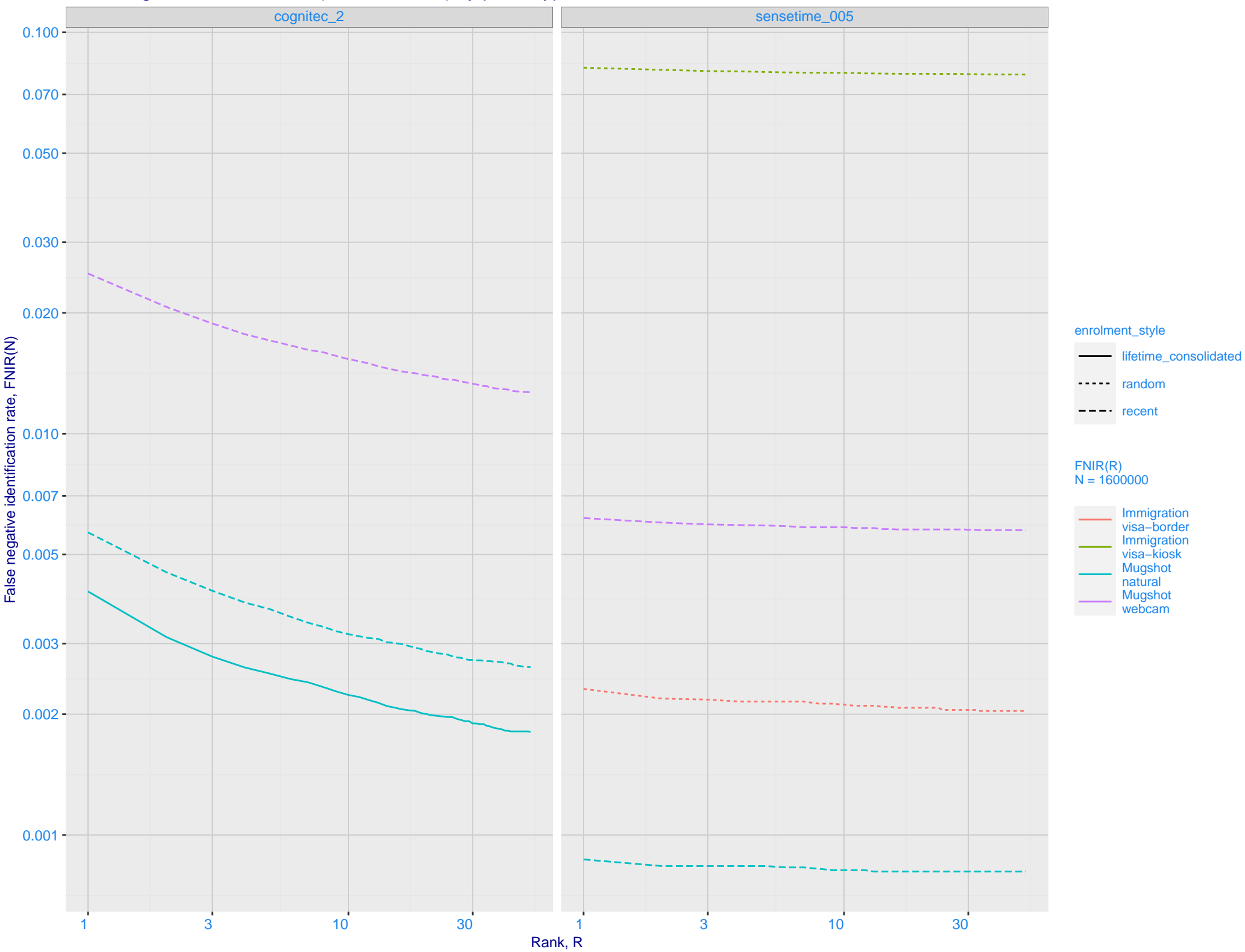G: FPIR dependence on T by probe type for N = 1600000 subjects

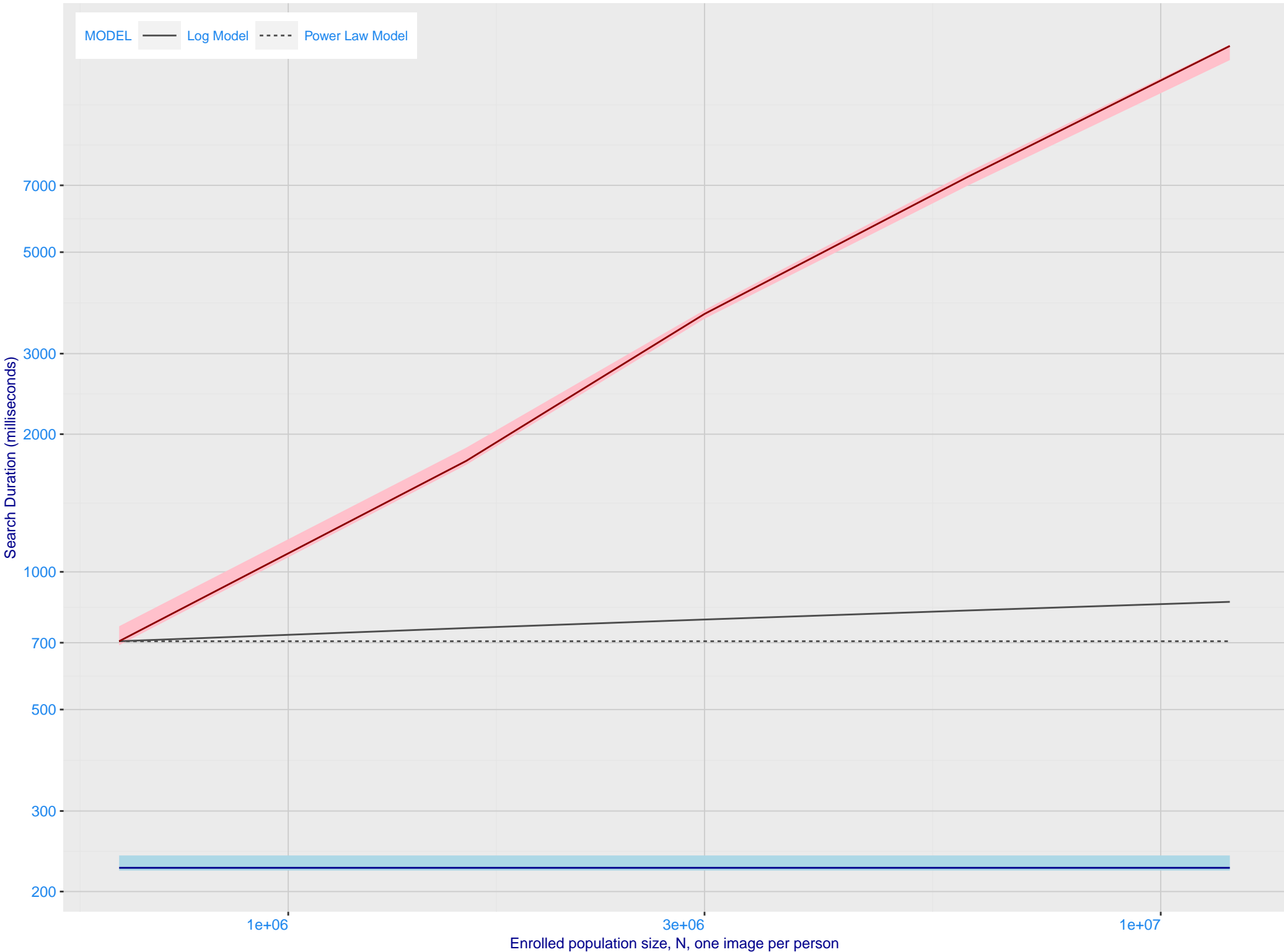H: DET for Mugshot natural images and various N. Links connect points of equal threshold.

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

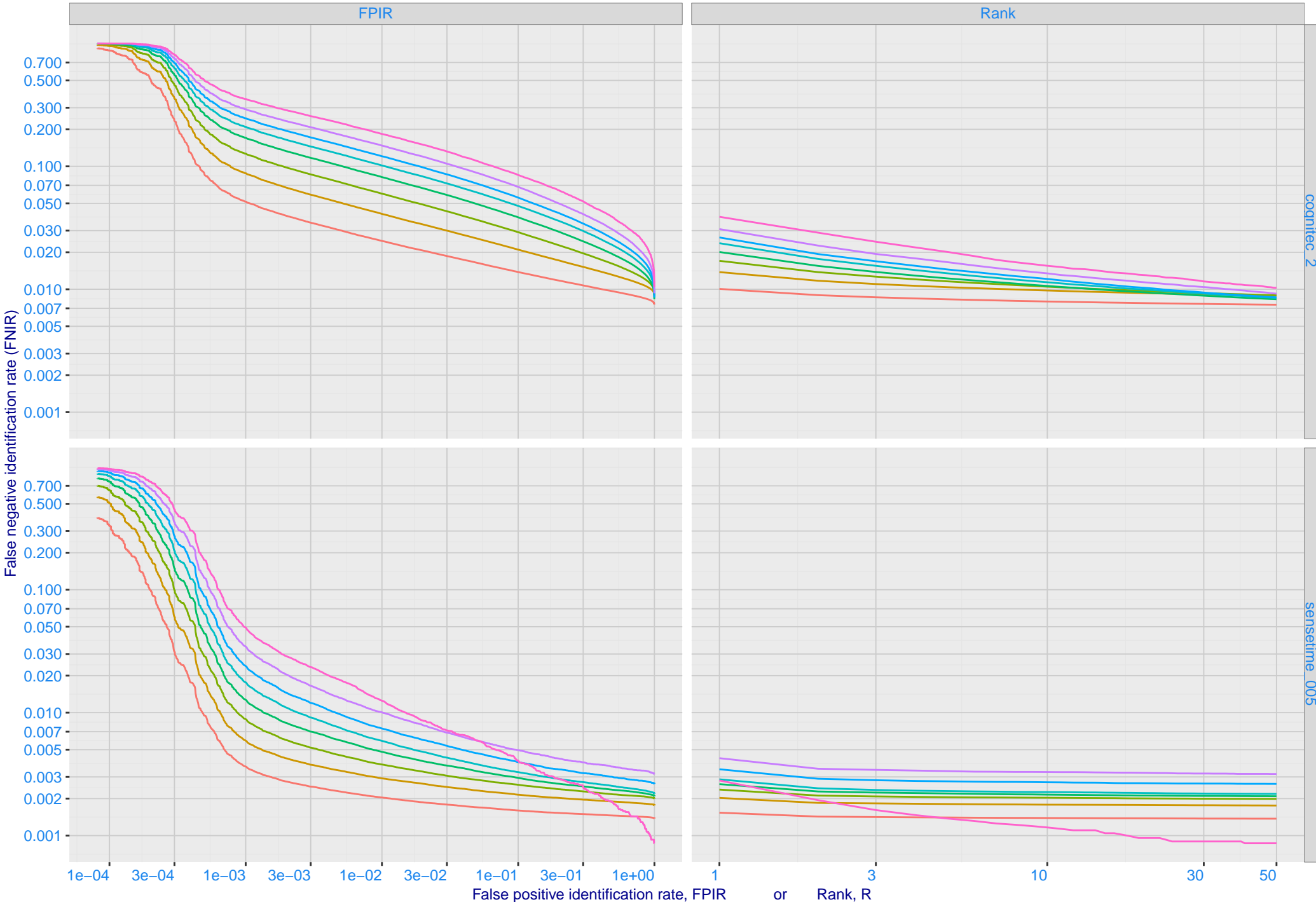J: Investigational mode: FNIR(1600000, R, 0) by probe type

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

N: Decline of genuine scores with ageing

Dataset:
2018 Mugshot
N= 3.1M
FNIR (Rank = 1)

0.20
0.15
0.10
0.05
0.00

TVAL

FPIR = 0.001
FPIR = 0.003
FPIR = 0.010
FPIR = 0.030

Score

Time lapse between search and initial encounter enrollment (years)