A: Datasheet

Algorithm: microsoft_0

Developer: Microsoft

Submission Date: 2018_01_30

Template size: 512 bytes

Template time (2.5 percentile): 274 msec

Template time (median): 281 msec

Template time (97.5 percentile): 297 msec

Investigation:

Frontal mugshot ranking 60 (out of 259) –– FNIR(1600000, 0, 1) = 0.0038 vs. lowest 0.0009 from sensetime_005

Mugshot webcam ranking 71 (out of 221) –– FNIR(1600000, 0, 1) = 0.0206 vs. lowest 0.0062 from sensetime_005

Immigration visa–border ranking 55 (out of 142) –– FNIR(1600000, 0, 1) = 0.0101 vs. lowest 0.0014 from visionlabs_009

Immigration visa–kiosk ranking 56 (out of 139) –– FNIR(1600000, 0, 1) = 0.1422 vs. lowest 0.0694 from cib_000

Identification:

Frontal mugshot ranking 58 (out of 259) –– FNIR(1600000, T, L+1) = 0.0407, FPIR=0.001000 vs. lowest 0.0018 from sensetime_004

Mugshot webcam ranking 72 (out of 219) –– FNIR(1600000, T, L+1) = 0.1145, FPIR=0.001000 vs. lowest 0.0122 from sensetime_003

Immigration visa–border ranking 57 (out of 139) –– FNIR(1600000, T, L+1) = 0.0774, FPIR=0.001000 vs. lowest 0.0059 from sensetime_004

Immigration visa–kiosk ranking 34 (out of 134) –– FNIR(1600000, T, L+1) = 0.2998, FPIR=0.001000 vs. lowest 0.1048 from sensetime_005
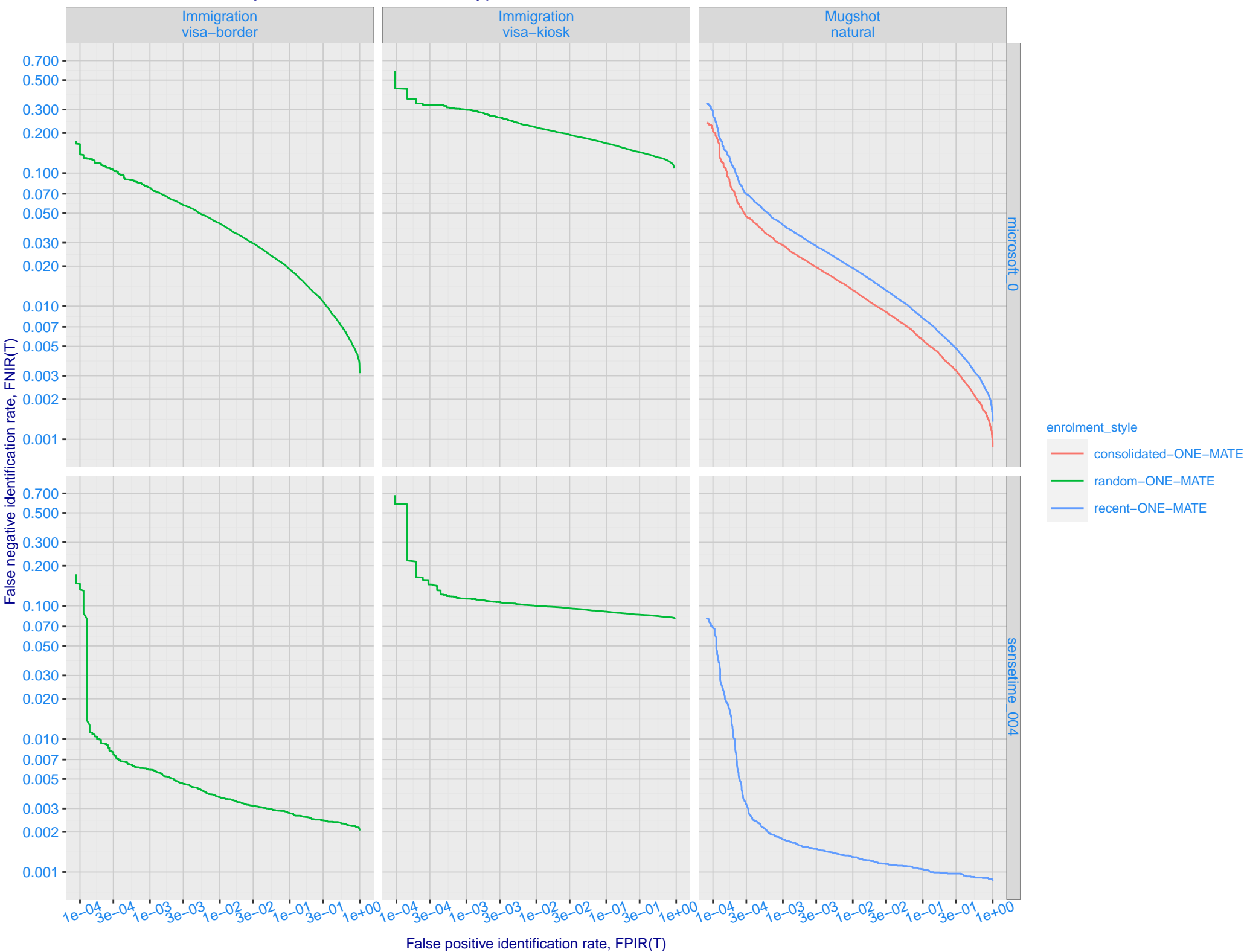
B: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)
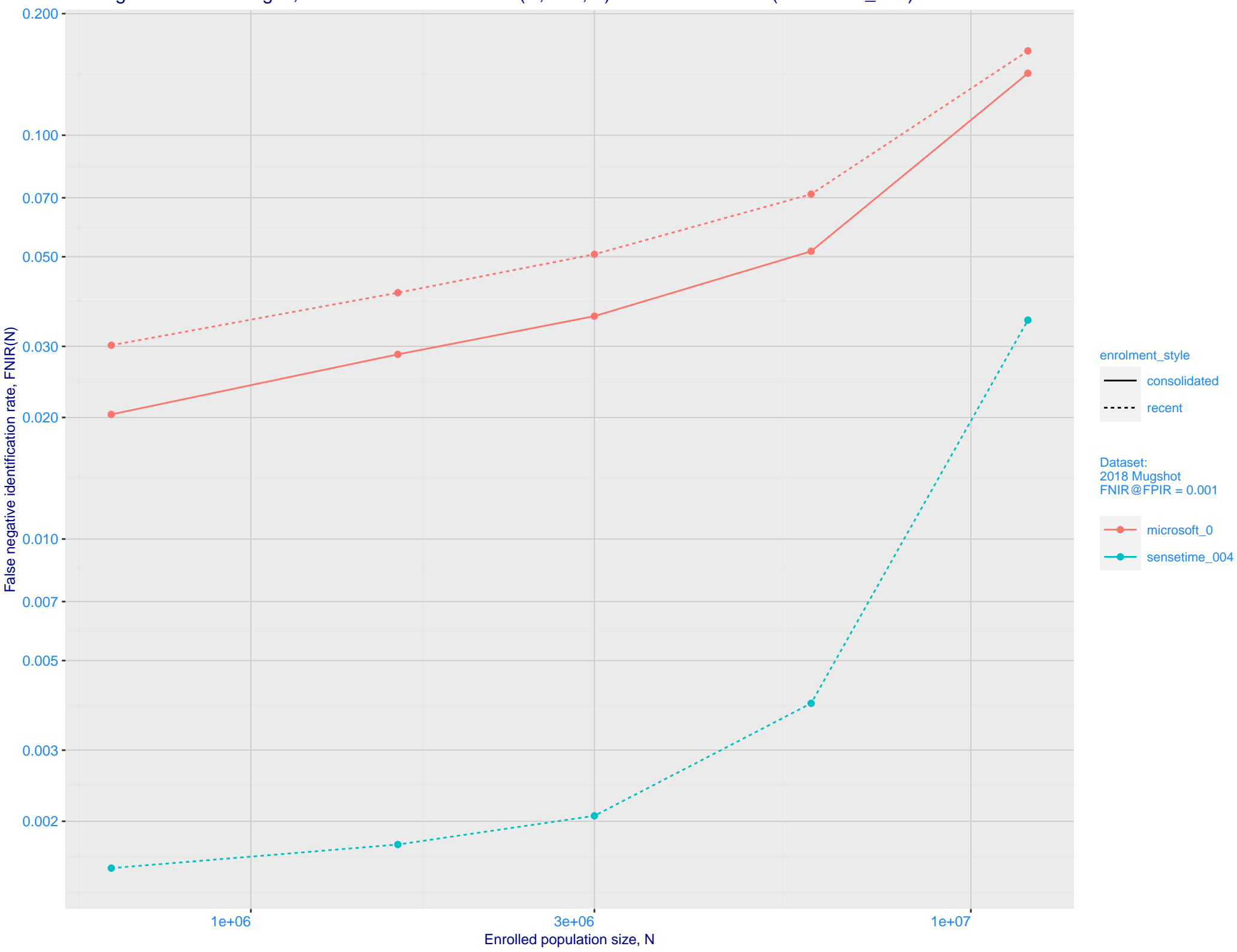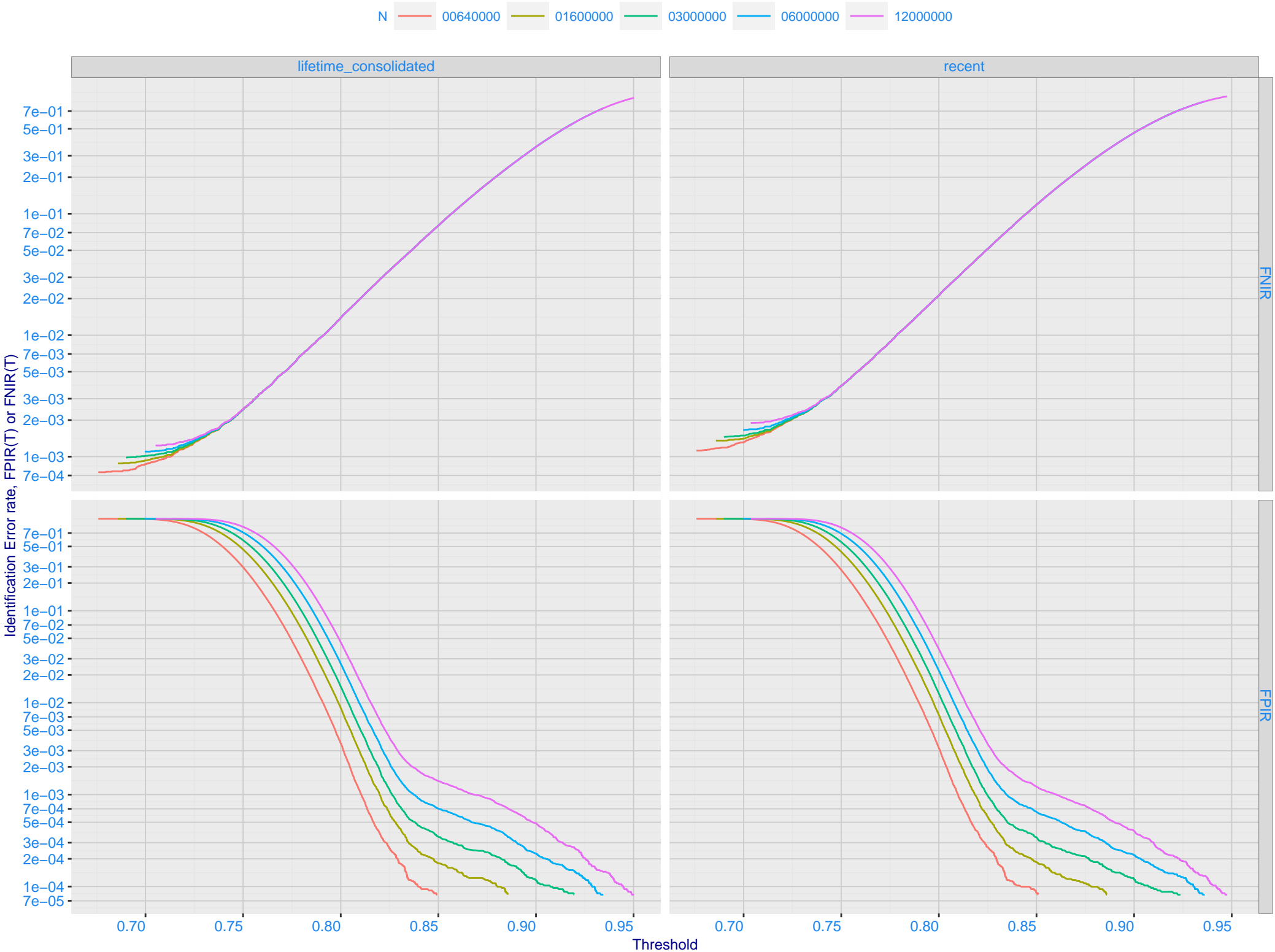
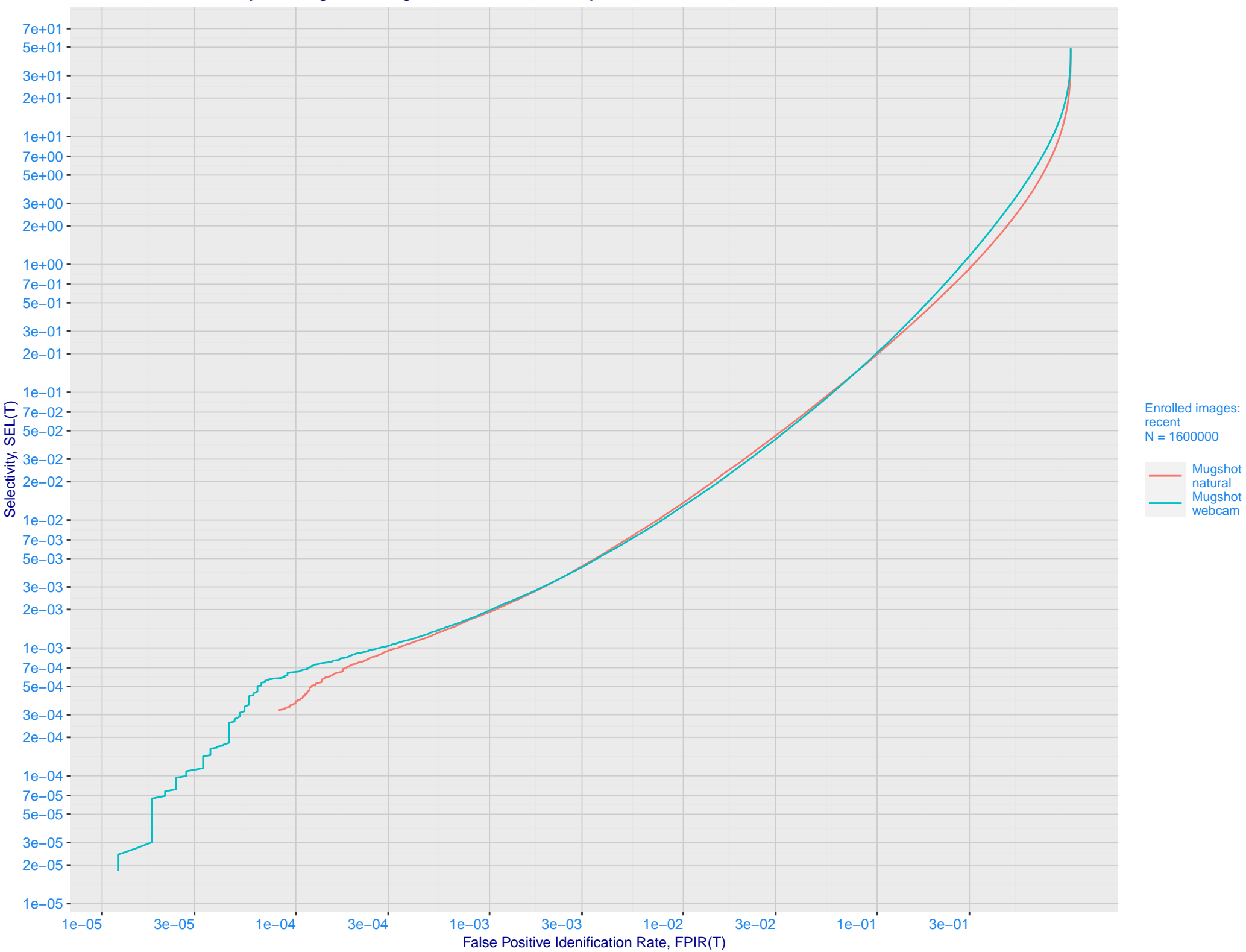**C: Evolution of accuracy for MICROSOFT algorithms on three datasets 2018 – present**
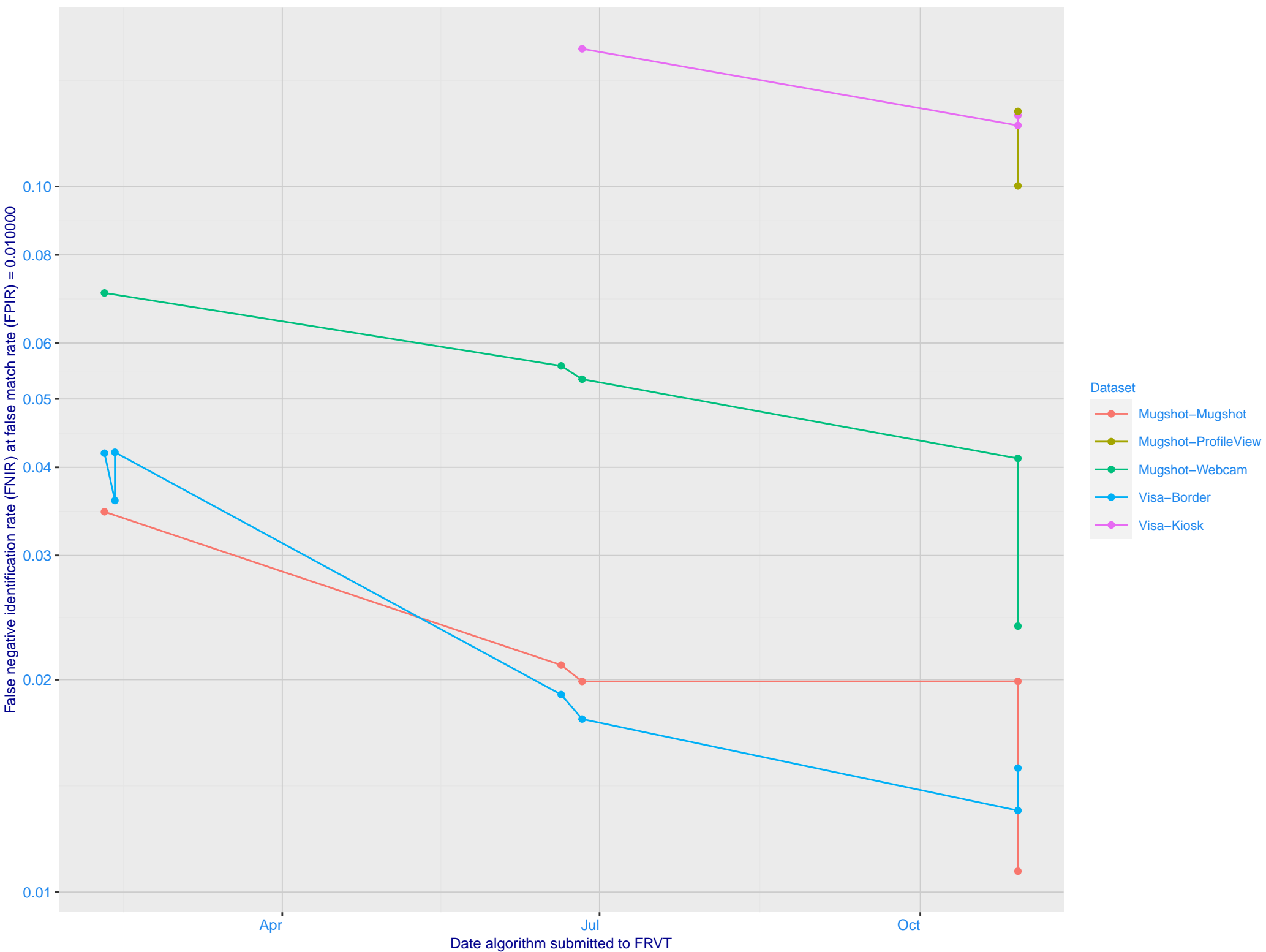
D: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals
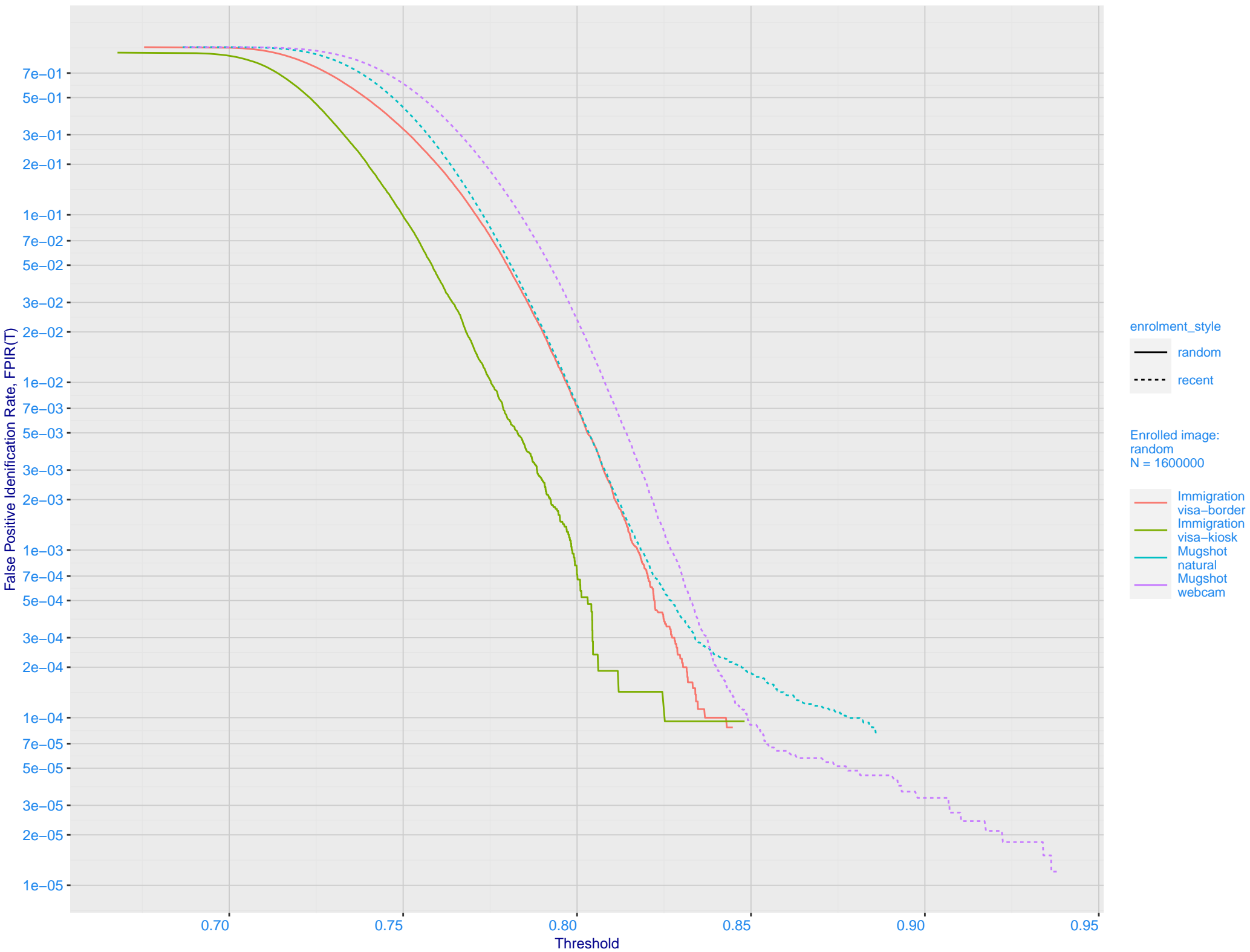
E: Dependence of error rates on T by number enrolled identities, N, for Mugshot natural images
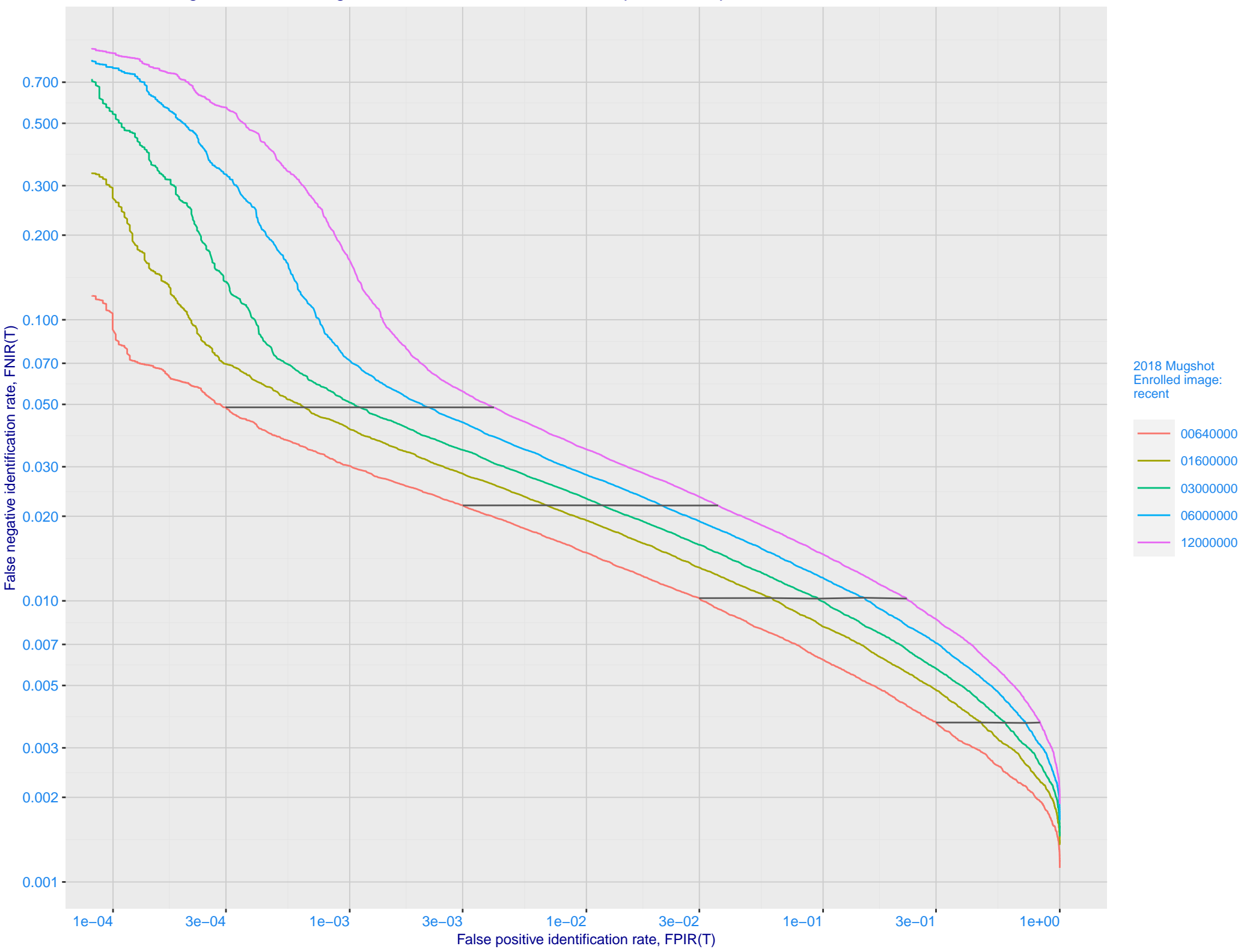
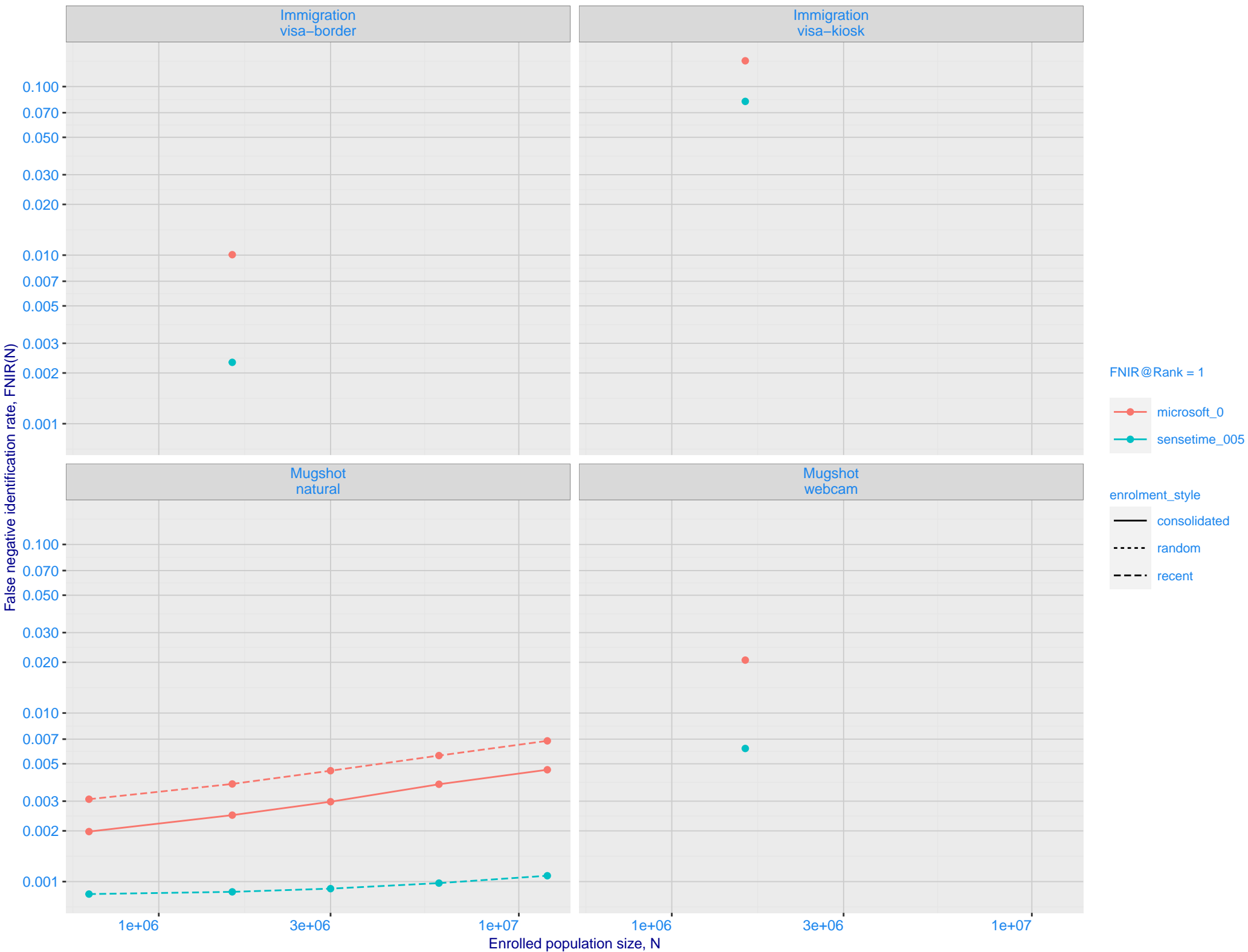F: FPIR vs. Selectivity for mugshot images, N = 1600000 subjects enrolled with one recent mate

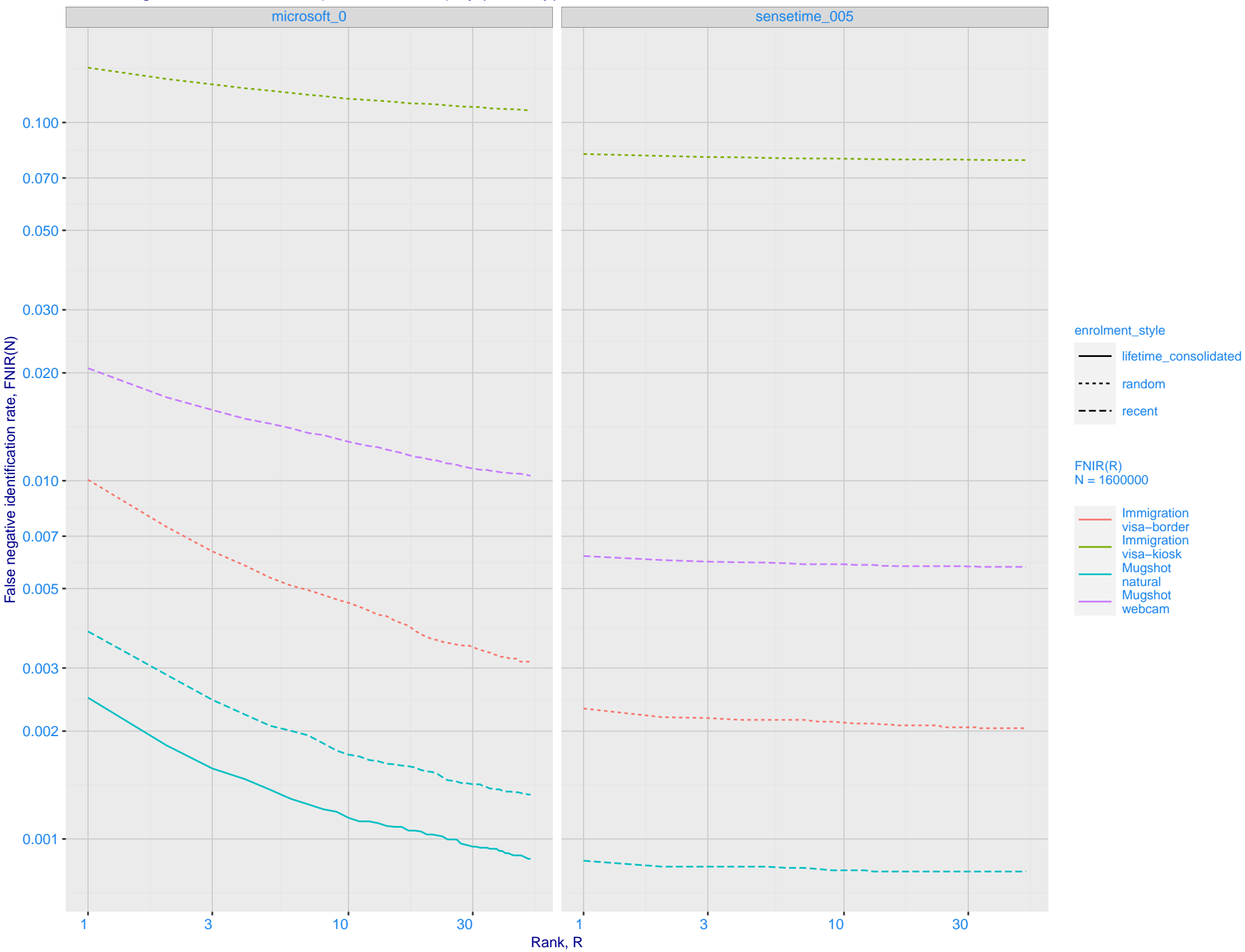G: FPIR dependence on T by probe type for N = 1600000 subjects

H: DET for Mugshot natural images and various N. Links connect points of equal threshold.
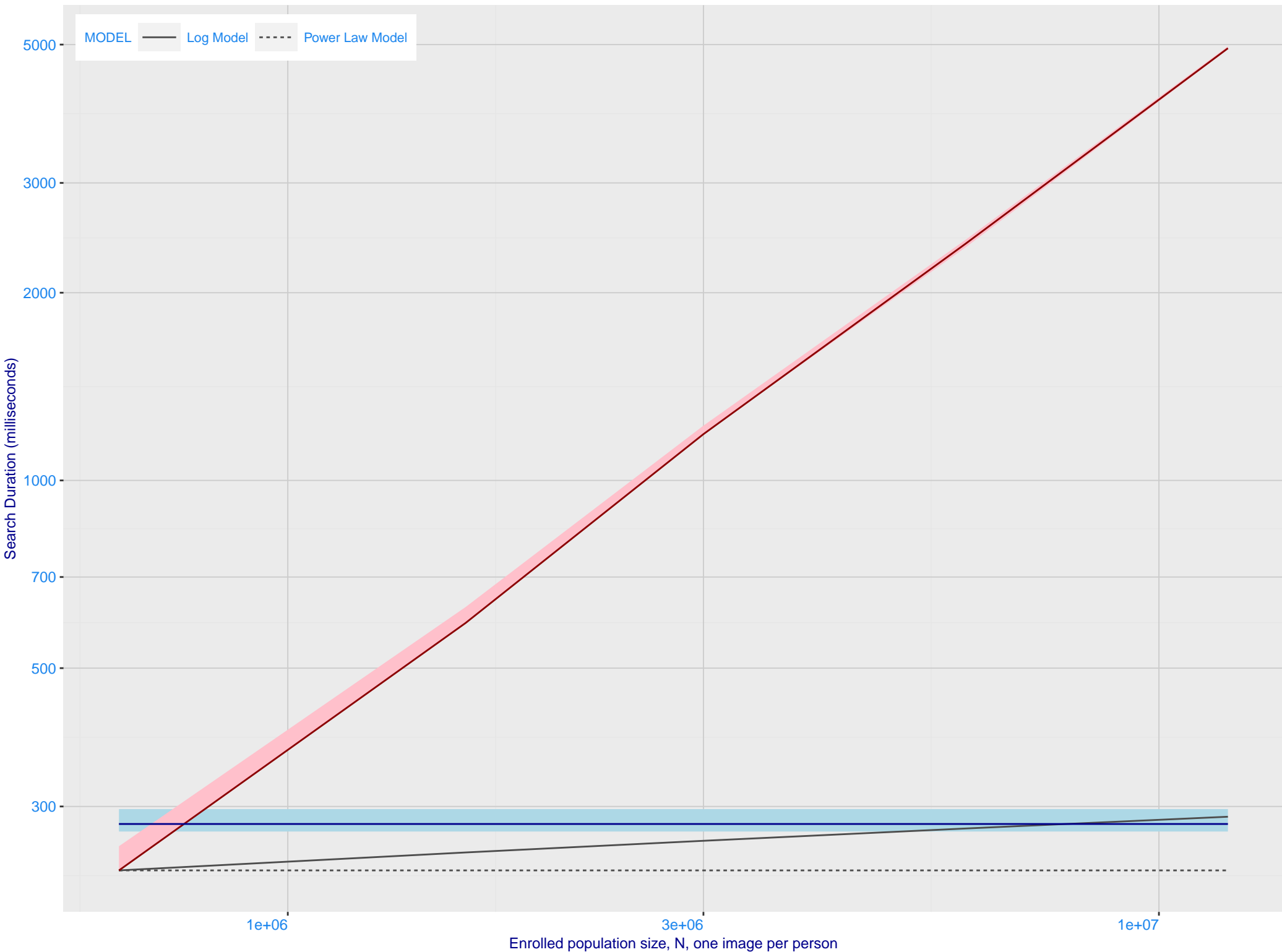
I: Investigational mode: FNIR(N, 1, 0) vs. most accurate (sensetime_005)

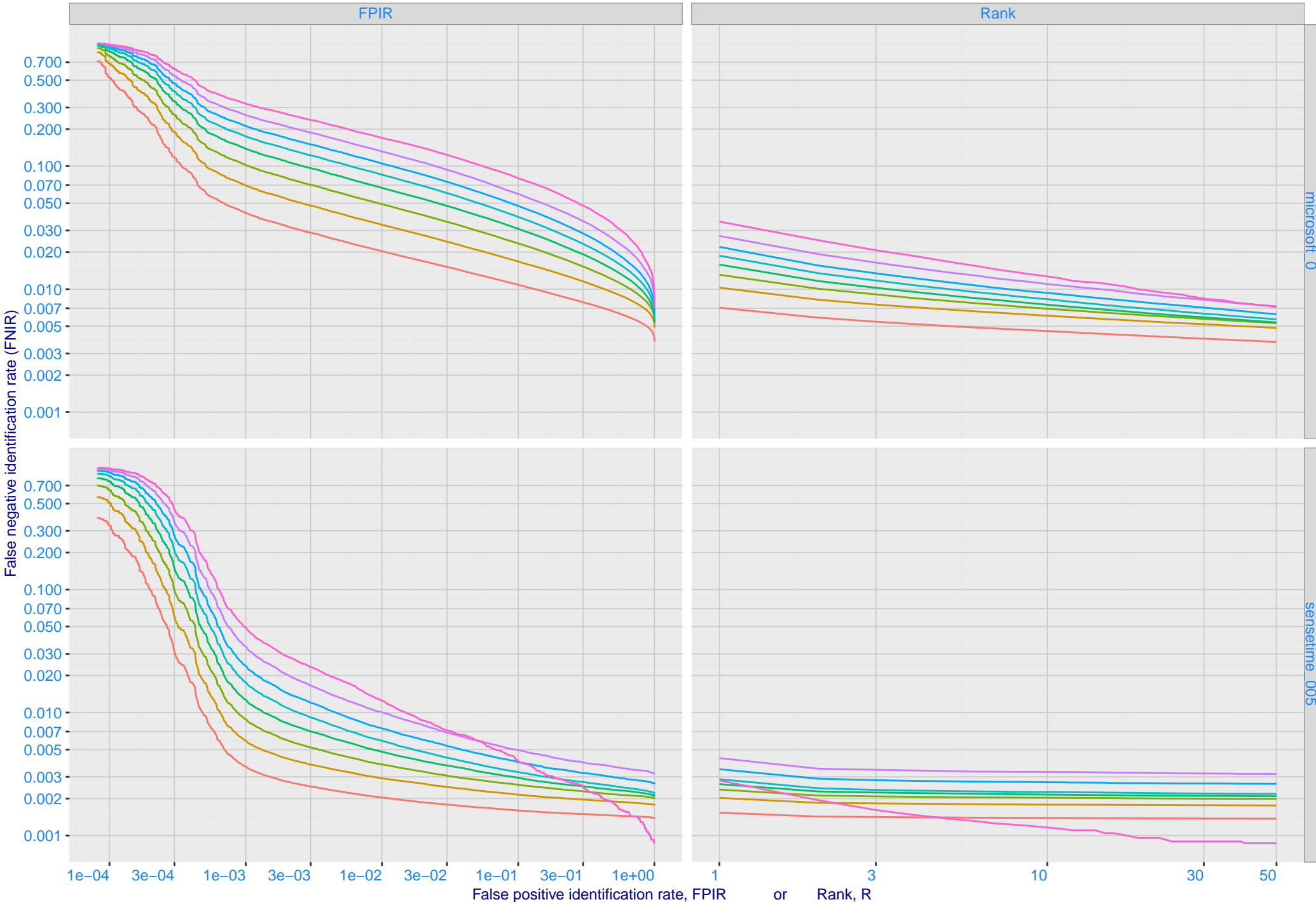J: Investigational mode: FNIR(1600000, R, 0) by probe type

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