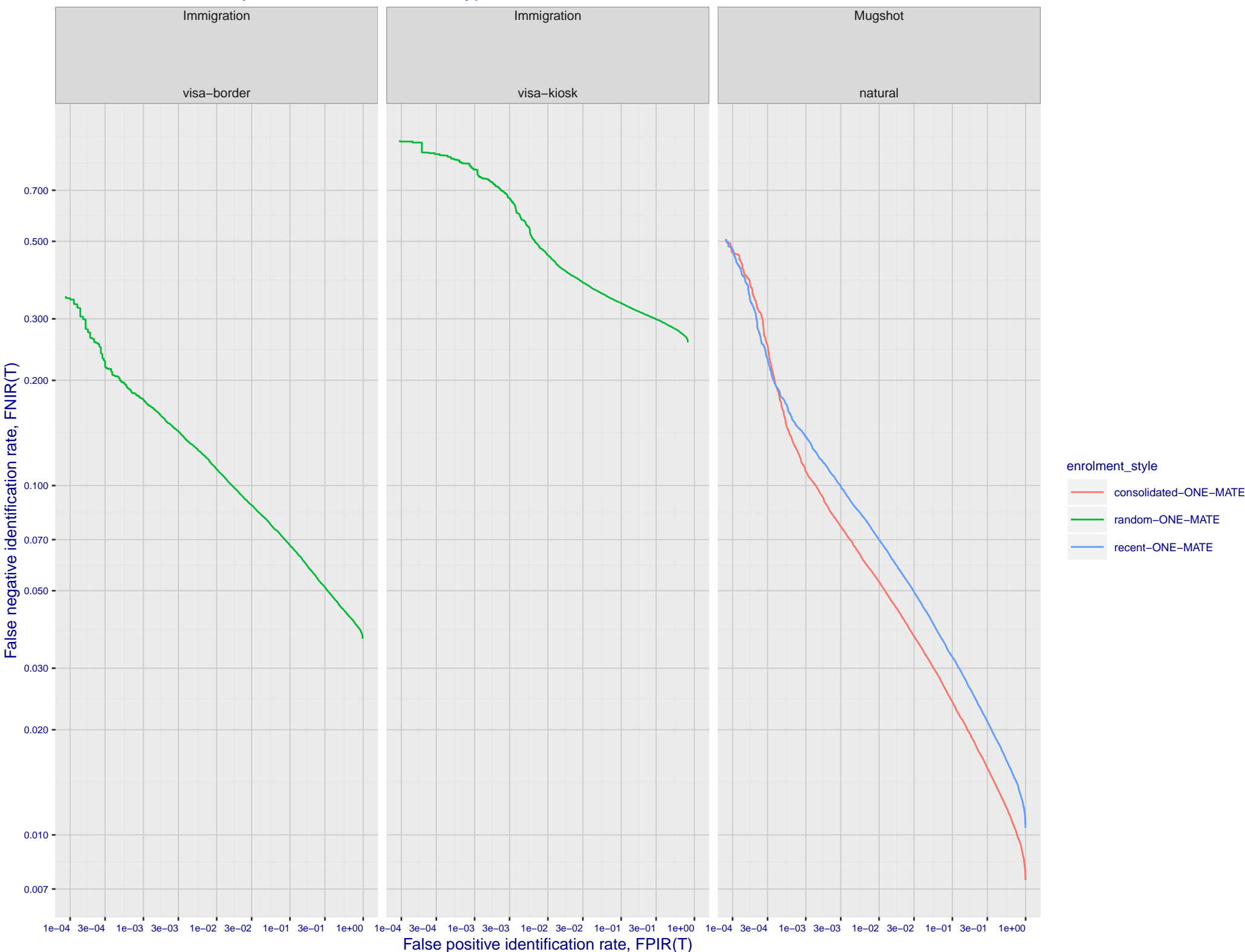A: 1:N error tradeoff by dataset and enrollment type. N = 1600000 individuals

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

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

Selectivity, SEL(T)

False Positive Idenification Rate, FPIR(T)

Enrolled images:
recent
N = 1600000

Mugshot
natural
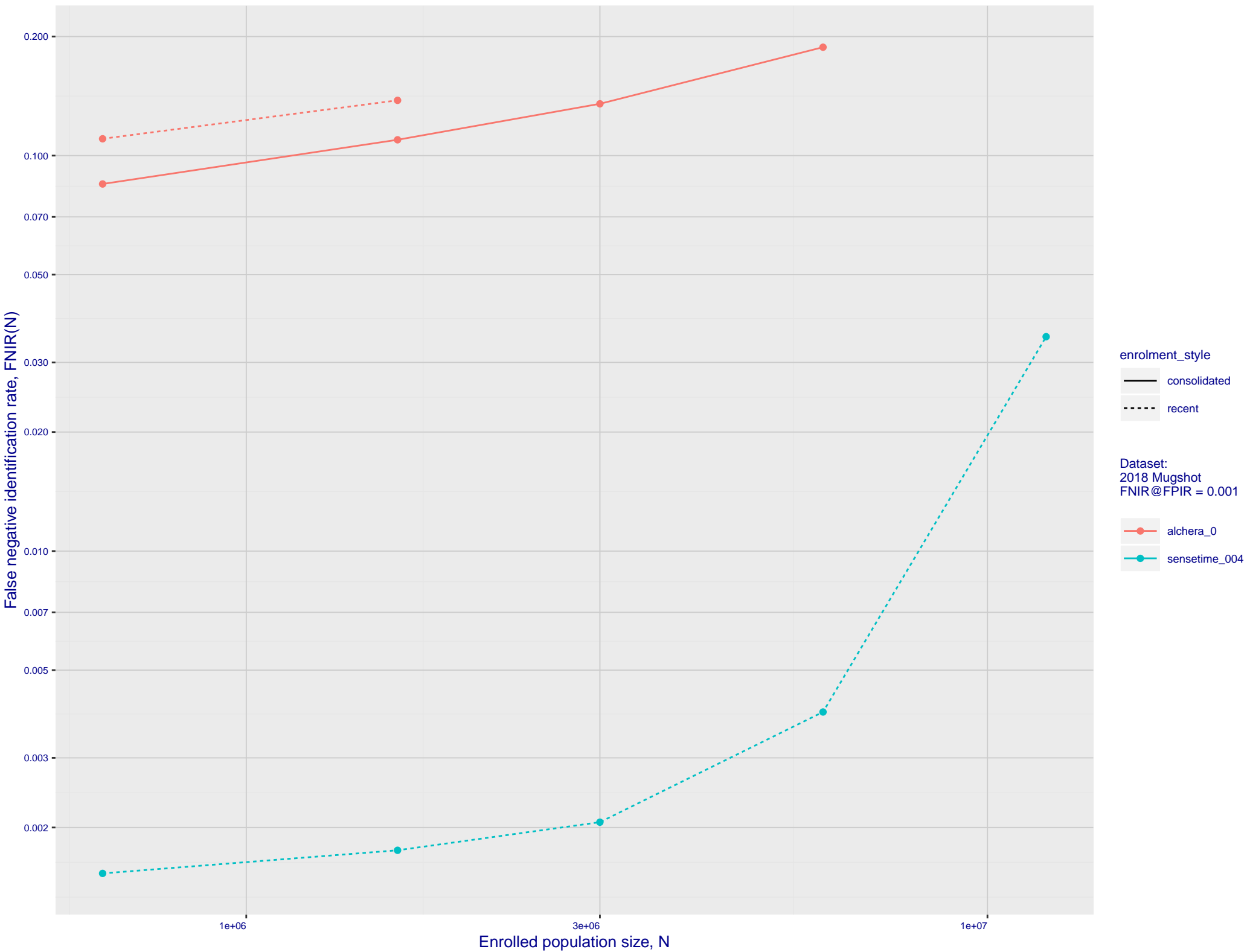
Mugshot
profile
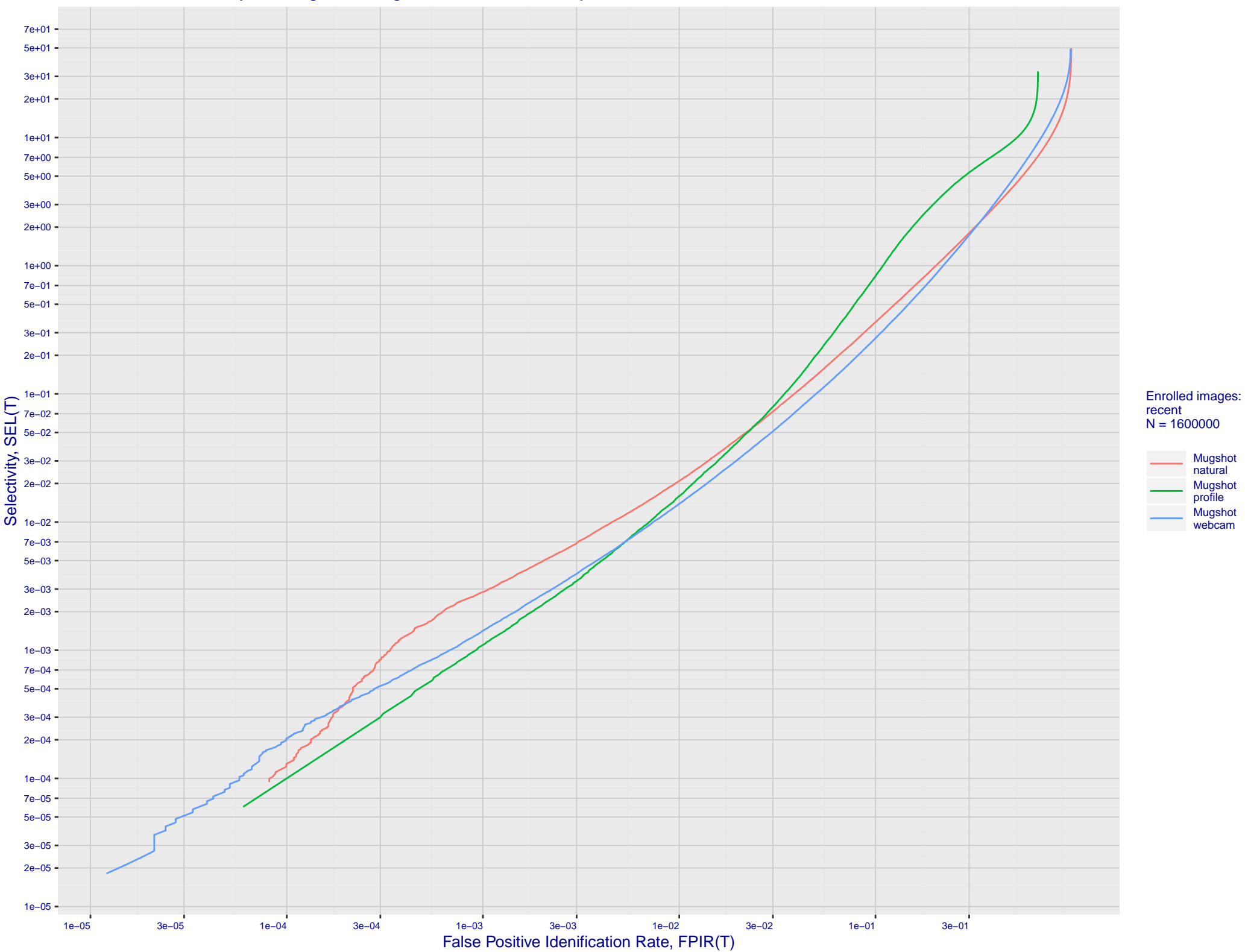
Mugshot
webcam

D: FPIR dependence on T by probe type for N = 1600000 subjects
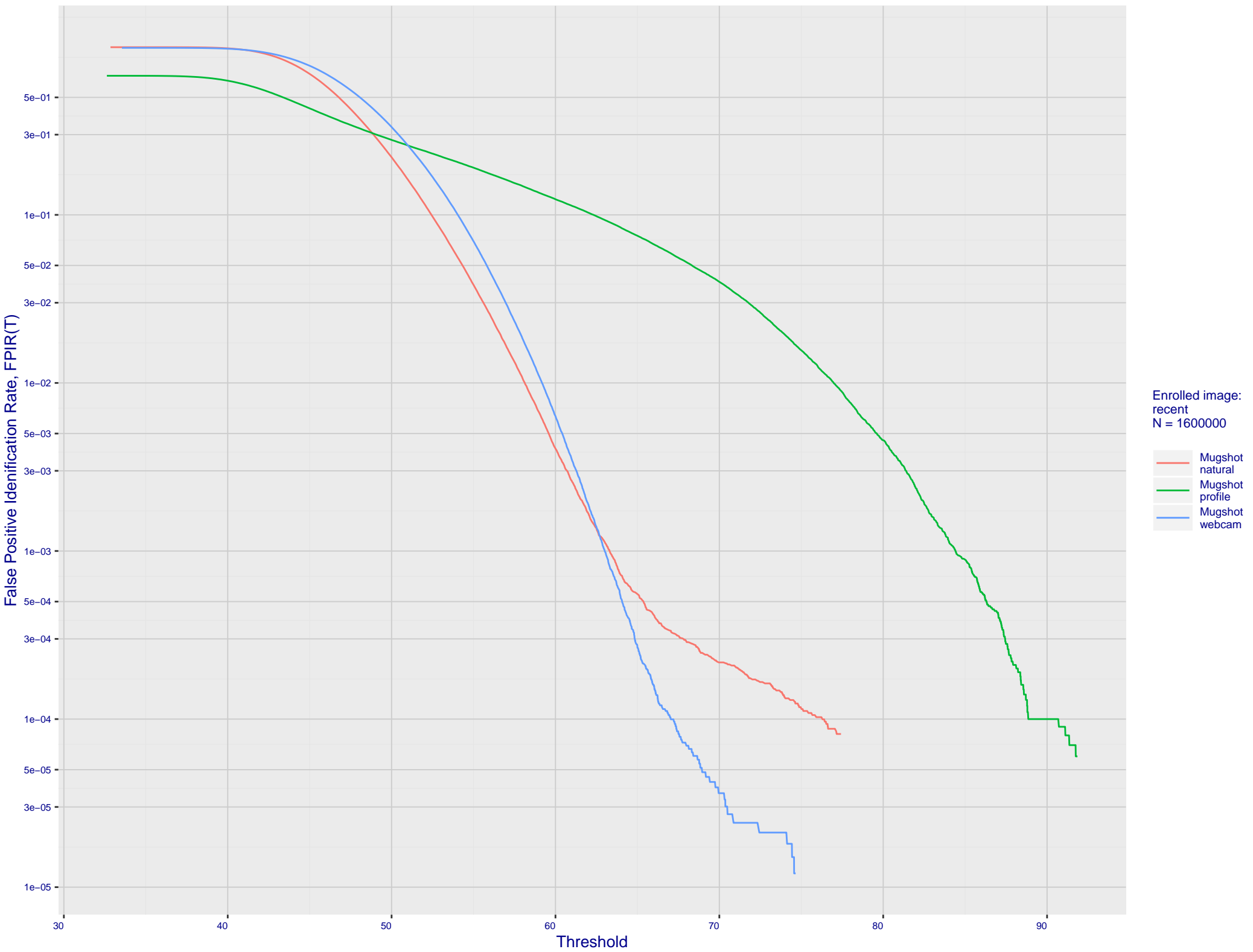
E: DET for Mugshot natural images and various N. Links connect points of equal threshold.
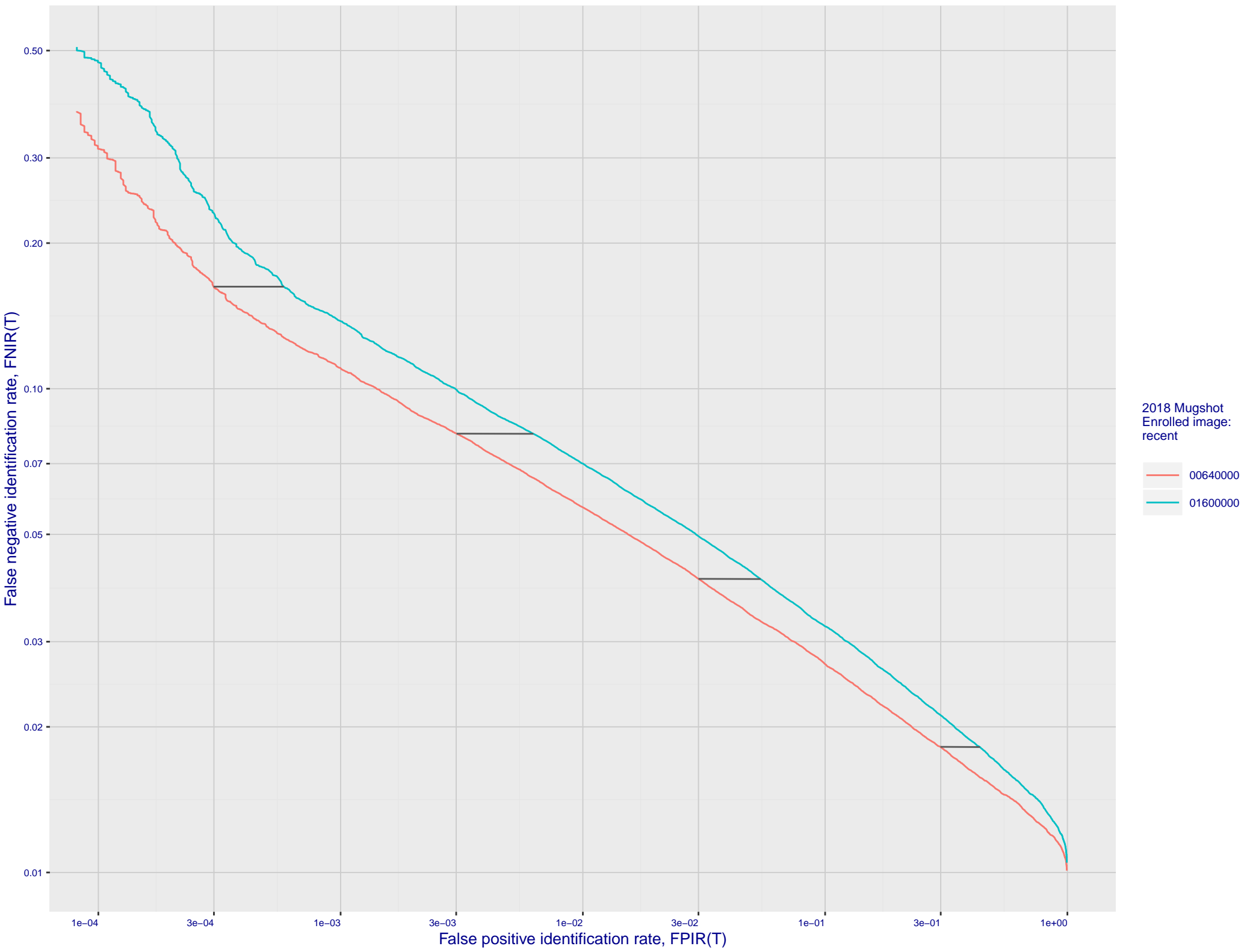
F: Mugshot natural images, identification mode: FNIR(N, L+1, T) vs. most accurate (sensetime_004)

G: Datasheet

Algorithm: alchera_0

Developer: Alchera Inc

Submission Date: 2018_06_30

Template size: 2048 bytes

Template time (2.5 percentile): 253 msec

Template time (median): 260 msec

Template time (97.5 percentile): 289 msec

Frontal mugshot investigation rank 140 −− FNIR(1600000, 0, 1) = 0.0161 vs. lowest 0.0010 from sensetime_004

natural investigation rank 131 −− FNIR(1600000, 0, 1) = 0.0467 vs. lowest 0.0067 from sensetime_003

natural investigation rank 176 −− FNIR(1600000, 0, 1) = 0.7818 vs. lowest 0.0492 from paravision_005

natural investigation rank 176 −− FNIR(1600000, 0, 1) = 0.7818 vs. lowest 0.0492 from paravision_005

natural investigation rank 74 −− FNIR(1600000, 0, 1) = 0.0464 vs. lowest 0.0014 from visionlabs_009

natural investigation rank 81 −− FNIR(1600000, 0, 1) = 0.2923 vs. lowest 0.0694 from cib_000

Frontal mugshot identification rank 141 −− FNIR(1600000, T, L+1) = 0.1380 vs. lowest 0.0018 from sensetime_004

natural identification rank 116 −− FNIR(1600000, T, L+1) = 0.2164 vs. lowest 0.0122 from sensetime_003

natural identification rank 113 −− FNIR(1600000, T, L+1) = 0.9976 vs. lowest 0.1020 from sensetime_004

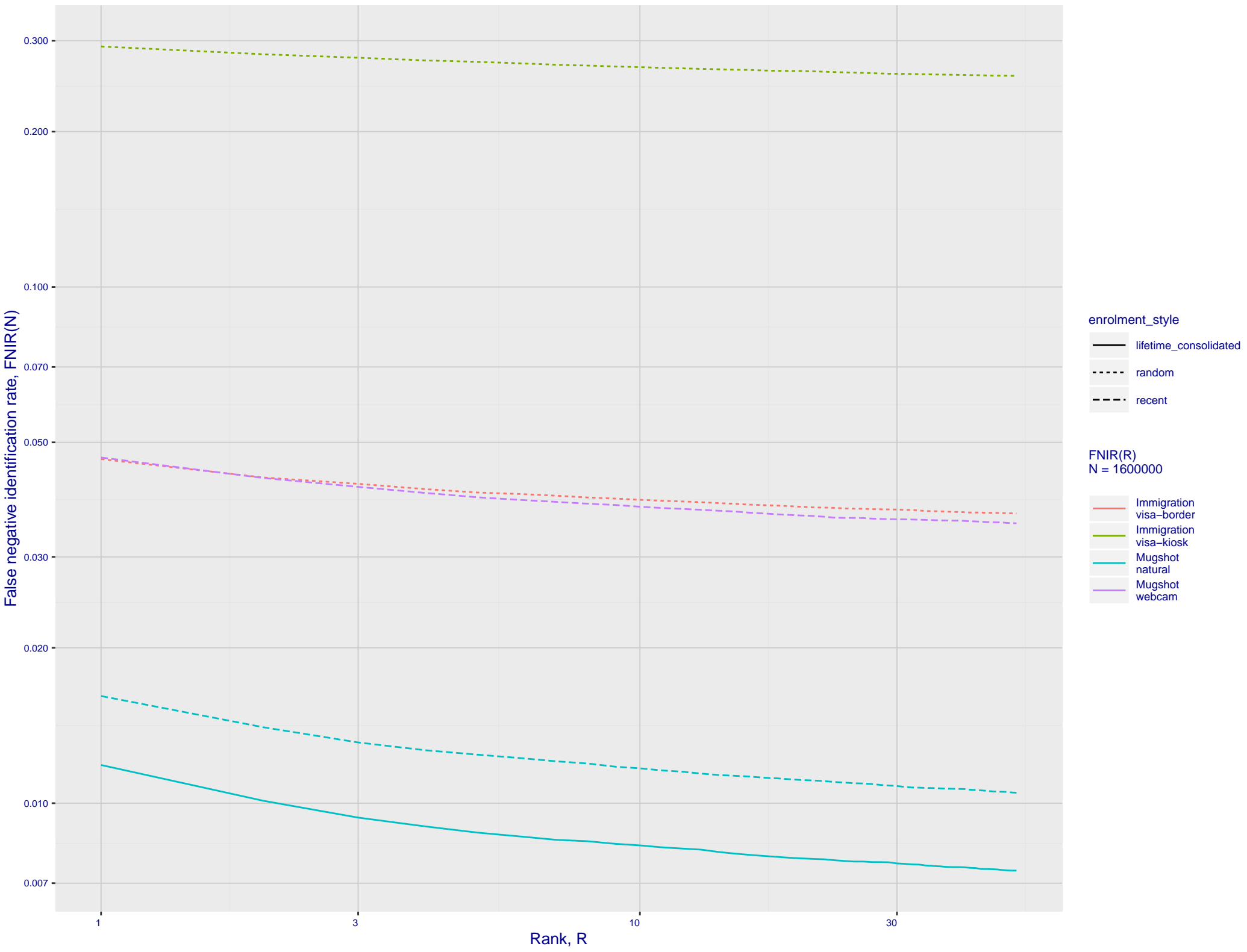natural identification rank 64 −− FNIR(1600000, T, L+1) = 0.1766 vs. lowest 0.0059 from sensetime_004

natural identification rank 68 −− FNIR(1600000, T, L+1) = 0.8038 vs. lowest 0.1129 from visionlabs_009

H: Investigational mode: FNIR(N, 1, 0) vs. most accurate (yitu_4)
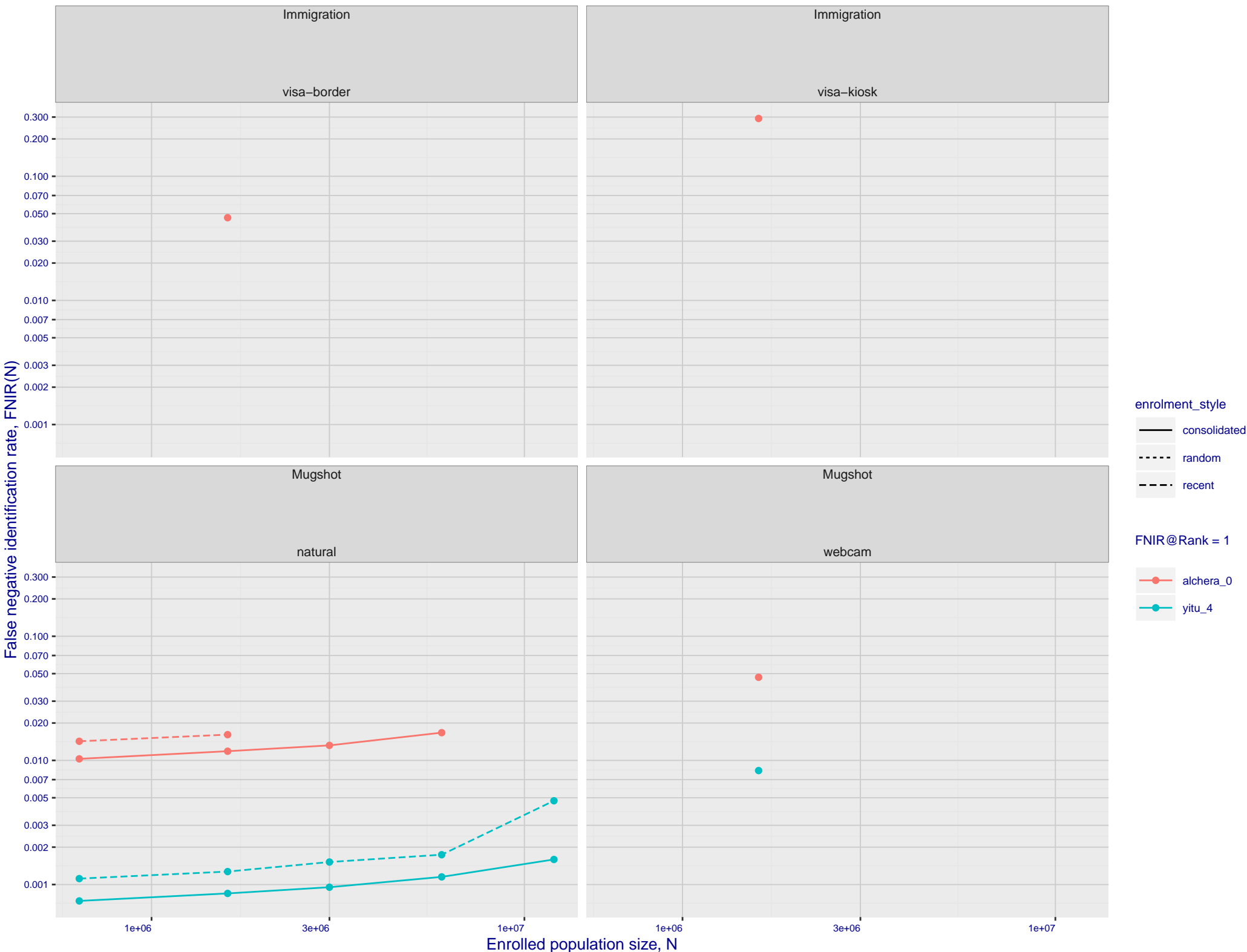
I: Investigational mode: FNIR(1600000, R, 0) by probe type

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

MODEL —— Log Model ---- Power Law Model

Search Duration (milliseconds)

5000
3000
2000

1000

700

500

300

7e+05   8e+05   1e+06

Enrolled population size, N, one image per person