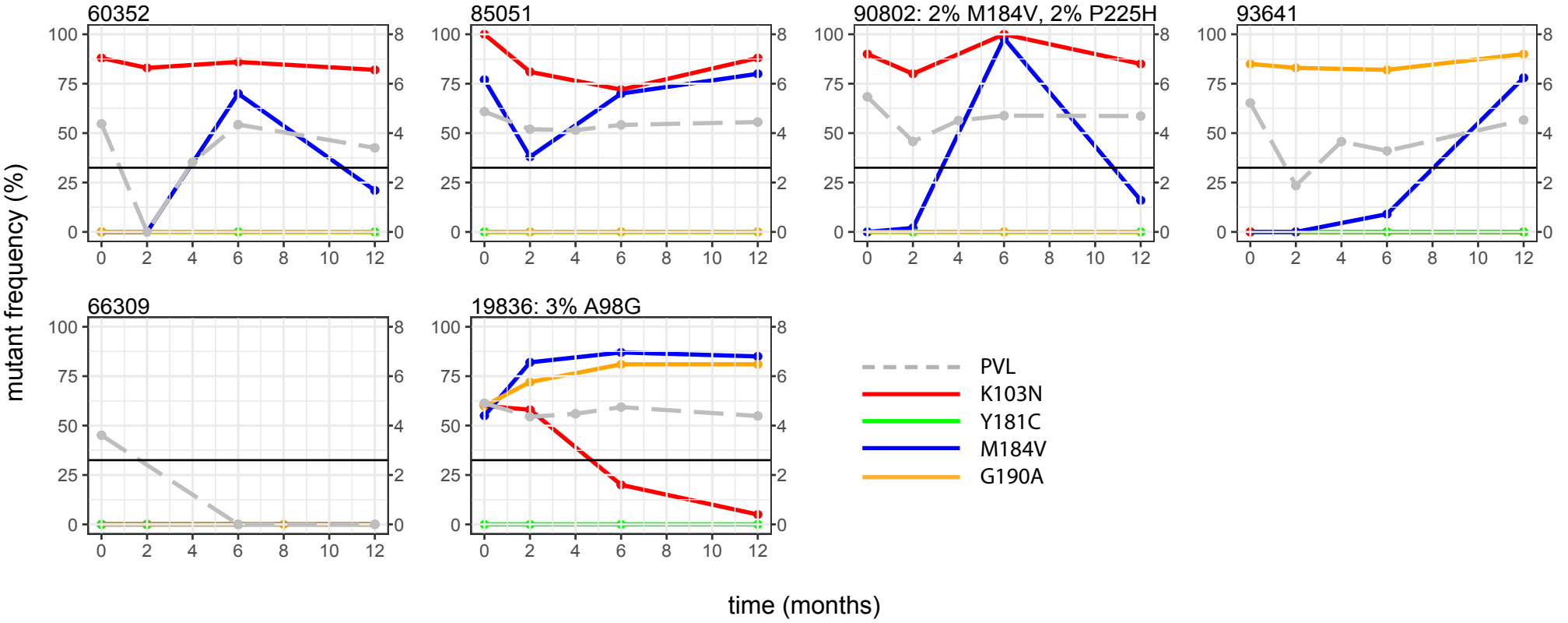
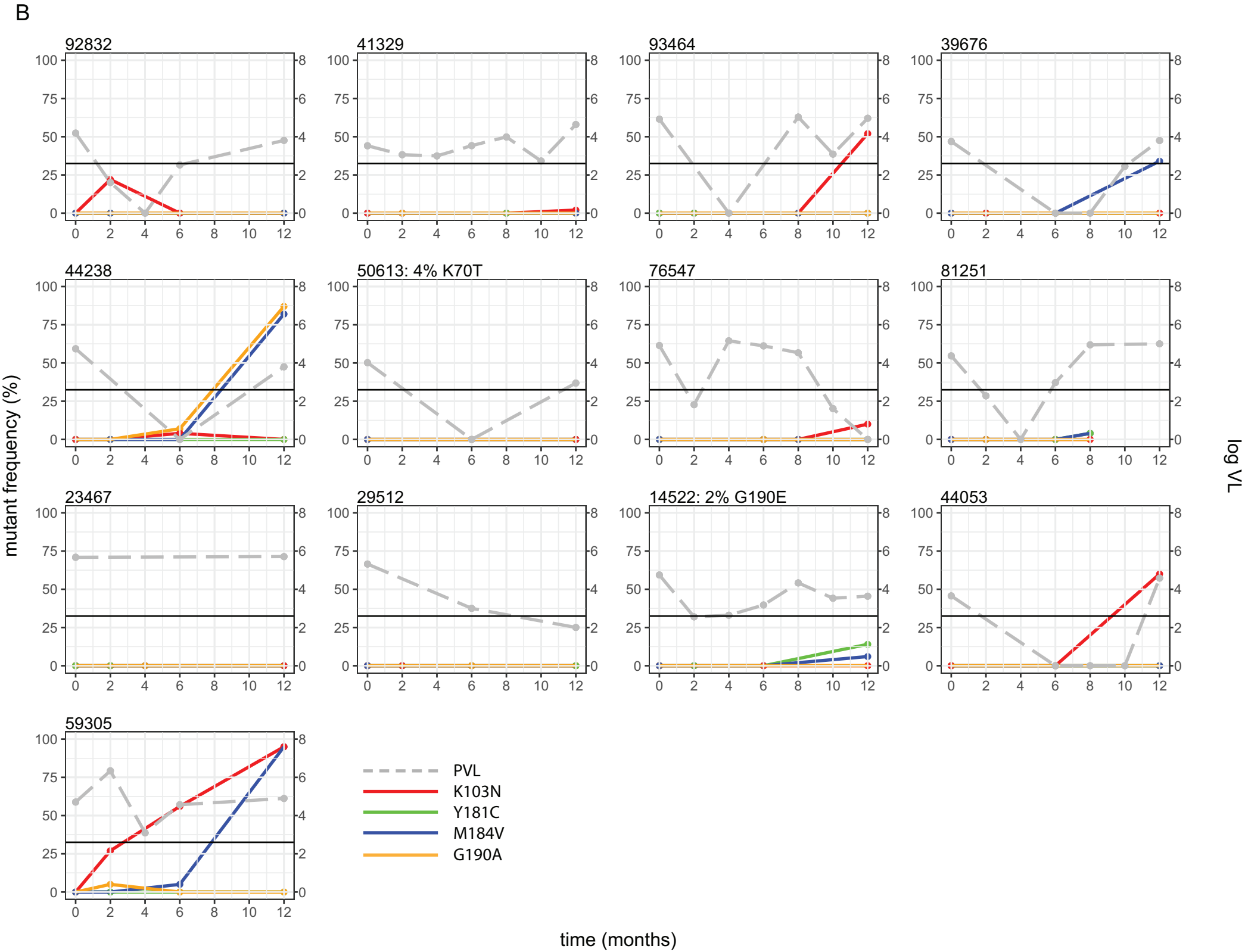
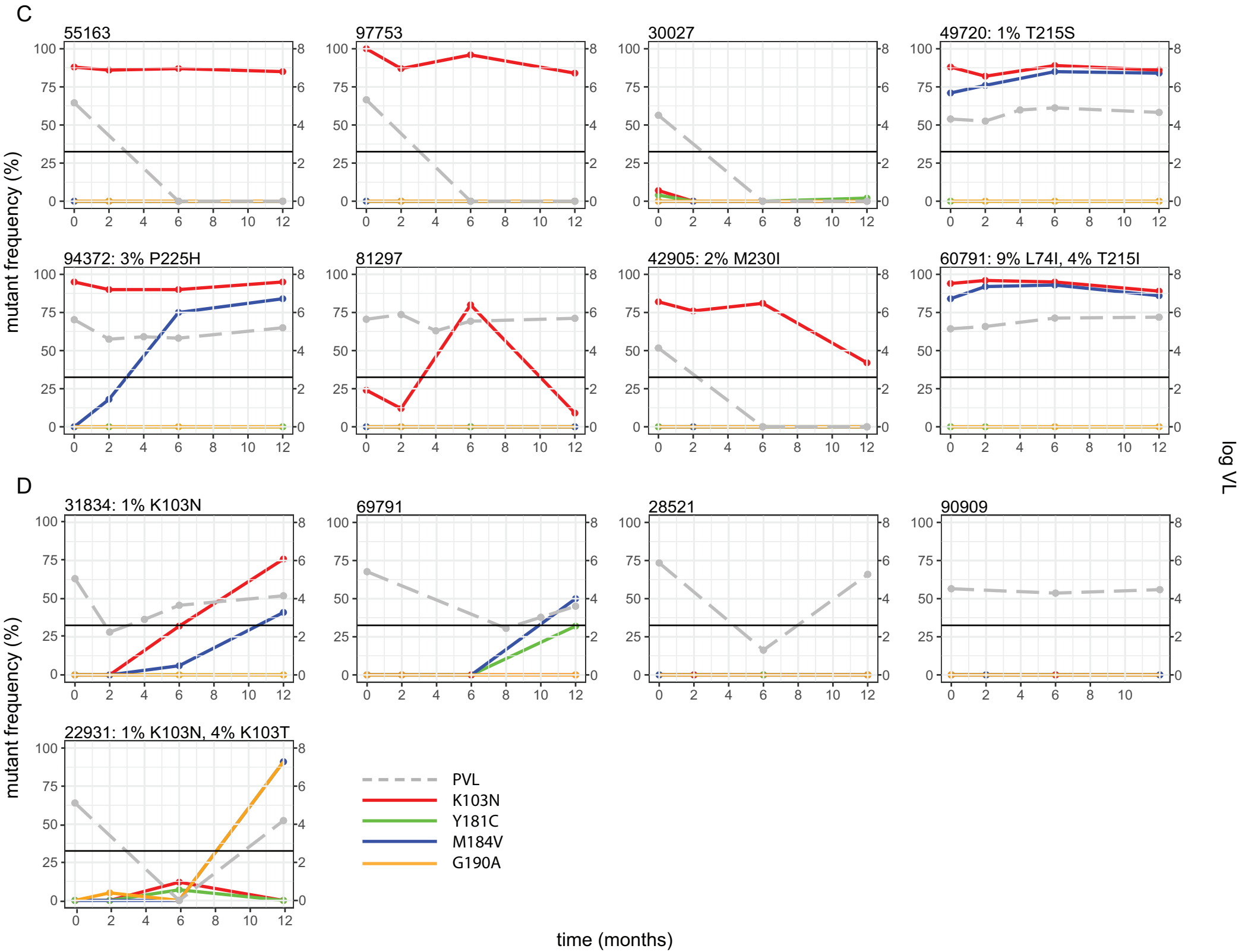
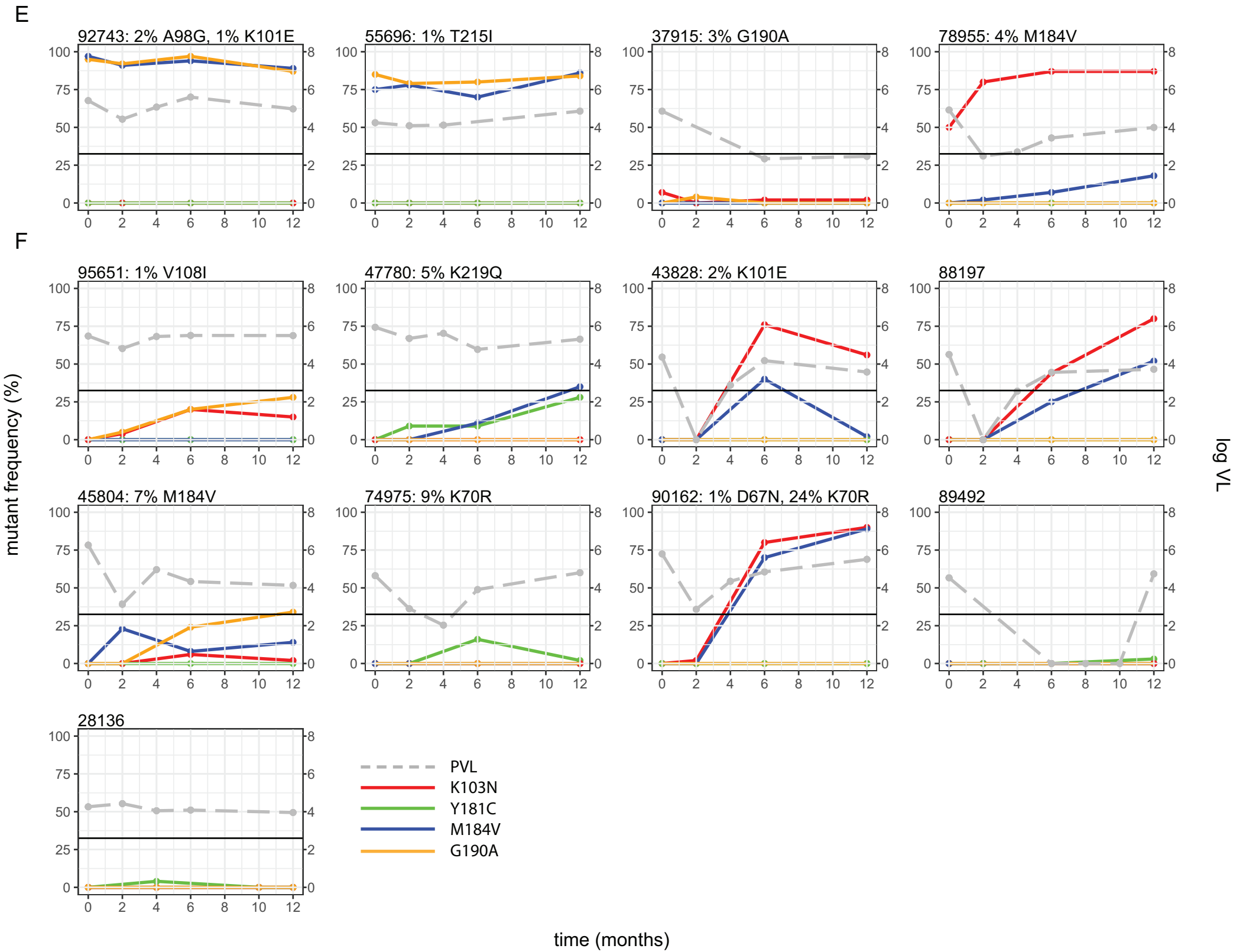
A


60352
85051
90802: 2% M184V, 2% P225H
93641
66309
19836: 3% A98G
mutant frequency (%)
time (months)
PVL
K103N
Y181C
M184V
G190A


B
92832
41329
93464
39676
44238
50613: 4% K70T
76547
81251
23467
29512
14522: 2% G190E
44053
59305
mutant frequency (%)
log VL
time (months)
PVL
K103N
Y181C
M184V
G190A


C
55163
97753
30027
49720: 1% T215S
94372: 3% P225H
81297
42905: 2% M230I
60791: 9% L74I, 4% T215I
D
31834: 1% K103N
69791
28521
90909
22931: 1% K103N, 4% K103T
mutant frequency (%)
log VL
time (months)
PVL
K103N
Y181C
M184V
G190A


E
92743: 2% A98G, 1% K101E
55696: 1% T215I
37915: 3% G190A
78955: 4% M184V
F
95651: 1% V108I
47780: 5% K219Q
43828: 2% K101E
88197
45804: 7% M184V
74975: 9% K70R
90162: 1% D67N, 24% K70R
89492
28136
mutant frequency (%)
log VL
time (months)
PVL
K103N
Y181C
M184V
G190A

Supplemental Figure 1. Plasma HIV RNA (PVL) and frequencies of drug-resistance (DR) mutations in select women prior to and during 12 months of non-nucleoside reverse transcriptase-inhibitor (NNRTI)-based ART.

Women with virologic failure (VF) and/or pre-ART drug resistance (PDR), had the frequencies of DR mutations at codons K103N, Y181C, M184V, and G190A assessed longitudinally using an oligonucleotide ligation assay (OLA). Plots show results from each woman with publication identification number in upper left corner of each plot. Peripheral blood mononuclear cell (PBMC) DNA collected pre-ART and every two months over 12 months of NNRTI-based ART were tested. PVL measurements in log10 copies/mL are shown with dashed gray line (right axis), with onset of VF defined as the first occurrence of PVL >2.60 (or 400 copies/mL, horizontal black line) after suppression of HIV replication, or the 2-month time-point if participant failed to suppress. DR mutant frequencies (left axis) are shown for each OLA codon: K103N (red), Y181C (green), M184V (blue), and G190A (orange). Minority variants (MV) and their frequencies detected in PBMC at enrollment by next-generation sequencing (NGS) are shown adjacent to participant ID. Plots are organized first according to ARV used for PMTCT and detection of PDR by OLA; Panel A: ARV-Naïve with PDR; Panel B: ARV-Naïve without PDR: Panel C: sdNVP-only experienced with PDR; Panel D: sdNVP-only experienced without PDR; Panel E: sdNVP+ZDV±3TC-experienced with PDR; Panel F: sdNVP+ZDV±3TC-experienced without PDR. Note that most women with high-frequency PDR had transient or no suppression of viral replication (except several with K103N only), and new mutations were often selected by month-6 of ART (Panels A, C and E). Their PDR mutations were typically maintained through month-12 of ART, and newly selected M184V was usually detected at the time of VF, even among those previously treated with 3TC (Panel E). In women without PDR by OLA, the most commonly selected mutations were K103N and M184V, which were detected at VF. Mutant outgrowth occurred shortly after initiation of ART, resembling participants with high-frequency PDR mutant populations. Of the 13 women with emergent DR by month-6 ART, 10 had previously taken sdNVP for PMTCT. Eight of the latter women also took ZDV±3TC, 6 of whom had MV detected by NGS, including V108I, K101E, and M184V, and the thymidine analog mutations D67N, K70R and K219Q. All 6 sdNVP+ZDV±3TC-experienced women with MV had VF by month-6 of ART.