**Supplementary table 1: The clinical characteristics of participants at the time of switch to E/F/C/T.**

| Characteristics | NNRTI-based (n = 453) | INSTI-based (n = 70) | PIs-based (n = 82) | P-value |
|---|---|---|---|---|
| Age (years) median (IQR) | 34 (27, 45) | 34 (28, 47) | 35 (29, 53) | 0.040 |
| Sex (male) (%) | 437 (96.4) | 67 (95.7) | 77 (93.9) | 0.540 |
| HBV coinfection (%) | 5 (1.1) | 0 (0) | 3 (3.7) | 0.310 |
| HCV coinfection (%) | 5 (1.1) | 1 (1.4) | 3 (3.7) | 0.230 |
| Syphilis coinfection (%) | 158 (34.9) | 15 (21.4) | 23 (28.0) | 0.090 |
| Infection routes (%) | | | | 0.010 |
| Heterosexual | 87 (19.2) | 19 (27.1) | 16 (19.5) | |
| Homosexual | 315 (69.5) | 35 (50) | 52 (63.4) | |
| Others | 51 (11.3) | 16 (22.9) | 14 (17.1) | |
| TDF (%) | 384 (84.8) | 67 (95.7) | 82 (100) | < 0.001 |
| Laboratory data median (IQR) | | | | |
| CD4 (cells/μL) | 622 (454, 808) | 520 (350, 709) | 726 (381, 929) | 0.030 |
| CD8 (cells/μL | 904 (660, 1206) | 1150 (724, 1576) | 1062 (630, 1487) | 0.070 |
| Leukocyte ($\times 10^9$/L) | 5.98 (5.12, 7.22) | 5.93 (4.73, 6.7) | 6.9 (5.37, 7.77) | 0.210 |
| Hemoglobin (g/L) | 155 (147, 164) | 153 (144, 166) | 154 (144, 162) | 0.490 |
| Platelets ($\times 10^9$/L) | 236 (204, 275) | 202 (190, 242) | 248 (194, 286) | 0.010 |
| Cholesterol (mmol/L) | 4.60 (4.07, 5.18) | 4.27 (3.82, 4.91) | 4.64 (4.06, 5.2) | 0.220 |

| | | | | |
|---|---|---|---|---|
| Triglycerides (mmol/L) | 1.41 (0.95, 2.31) | 1.14 (0.78, 1.89) | 2.44 (1.38, 3.29) | <0.001 |
| Creatinine (μmol/L) | 70.8 (64.2, 79.6) | 77.2 (66.1, 85.1) | 71.8 (62.3, 86) | <0.001 |
| Glucose (mmol/L) | 5.9 (5.49, 6.40) | 5.76 (5.43, 6.15) | 5.82 (5.9, 6.58) | 0.400 |
| ALT (IU/mL) | 25.9 (18, 36) | 18 (14, 36) | 16 (12, 26.75) | <0.001 |
| AST (IU/mL) | 20 (17, 26) | 18 (16, 22) | 17 (14, 20) | 0.030 |
| Duration of previous treatment (years) | 3.84 (2.15, 5.45) | 1.93 (1.34, 2.54) | 3.34 (1.82, 4.14) | <0.001 |

INTIs: Integrase inhibitors; NNRTI: Non-nucleotide reverse transcriptase inhibitor; PI: Protease inhibitor; ALT: Alanine aminotransferase; IQR: Interquartile range. ALT: alanine transaminase; AST: aspartate transaminase; TDF: Tenofovir.