

Table S8: Epidemic Parameter Estimations from HIV-1 Subtype B Sequence Data

| <u>Inference Model</u> HIV cluster | R_0 | γ | S_0 | Root of the tree (yr) | Origin z_0 of the epidemic (yr) |
|---------------------------------------|-----------------------|--------------------------|----------------------|--------------------------|--------------------------------------|
| Stoch. Coal. SIR | | | | | |
| Cluster 1 | 3.31 (2.40 - 4.26) | 0.27 (8.17E-2 - 0.48) | 1165 (448 - 1974) | 1971 (1946-1987) | 1969 (1942-1986) |
| Cluster 2 | 2.42 (1.86 - 3.07) | 0.32 (7.72E-2 - 0.57) | 976 (371 - 1701) | 1975 (1953 - 1988) | 1972 (1947 - 1988) |
| Cluster 3 | 2.10 (1.07 - 3.73) | 0.41 (2.59E-2 - 0.86) | 1442 (33 - 4568) | 1979 (1959 - 1990) | 1973 (1943 - 1989) |
| Cluster 4 | 3.48 (1.69 - 5.24) | 0.28 (0.08 - 0.61) | 1757 (148 - 5260) | 1964 (1922 - 1990) | 1961 (1918 - 1991) |
| Cluster 6 | 3.09 (1.94 - 4.53) | 0.19 (3.72E-2 - 0.41) | 727 (236 - 1312) | 1972 (1950 - 1989) | 1970 (1947 - 1988) |
| Deter. Coal. SIR | | | | | |
| Cluster 1 | 3.43 (2.52 - 4.40) | 0.26 (6.95E-2 - 0.50) | 1158 (397 - 2023) | 1969 (1941-1987) | 1967 (1939-1986) |
| Cluster 2 | 2.34 (1.92 - 2.81) | 0.38 (0.13 - 0.66) | 1163 (530 - 1895) | 1979 (1967 - 1989) | 1977 (1964 - 1987) |
| Cluster 3 | 1.87 (1.42 - 2.43) | 0.54 (0.14 - 0.97) | 1298 (399 - 2267) | 1979 (1965 - 1989) | 1975 (1960 - 1987) |
| Cluster 4 | 3.35 (2.02 - 4.86) | 0.34 (8.22E-2 - 0.65) | 1479 (397 - 2792) | 1972 (1948 - 1990) | 1971 (1946 - 1989) |
| Cluster 6 | 3.14 (1.98 - 4.64) | 0.18 (2.99E-2 - 0.37) | 693 (213 - 1241) | 1971 (1949 - 1989) | 1969 (1943 - 1988) |
| BDSIR | | | | | |
| Cluster 1 | 3.22 (2.18-4.27) | 0.30 (0.15-0.47) | 880 (142-3592) | 1986 (1983-1988) | 1983 (1978-1987) |
| Cluster 2 | 2.45 (1.53-3.68) | 0.17 (0.06-0.35) | 1745 (190-8892) | 1983 (1979-1986) | 1978 (1968-1984) |
| Cluster 3 | 1.90 (1.22-2.78) | 0.20 (0.09-0.39) | 1540 (153-8558) | 1985 (1981-1988) | 1978 (1962-1986) |
| Cluster 4 | 2.62 (1.45-4.29) | 0.15 (0.06-0.31) | 1921 (128-11007) | 1987 (1983-1990) | 1981 (1970-1988) |
| Cluster 6 | 3.17 (1.73-5.43) | 0.15 (0.06-0.31) | 2862 (183-16909) | 1986 (1981-1989) | 1983 (1975-1989) |