Suppose there are 6 terminal cells (prefixed by “T”) in the real lineage. Before any coalescence, they are all candidates (boxed) for the next coalescence.

1st coalescence

Randomly pick two from these six candidate cells and coalesce (they become sister cells)

1st coalescence: T2 & T6 are coalesced

Now there are 5 cells, including 4 terminal cells and 1 internal cell (prefixed by “I”), as candidates for the next coalescence.

2nd coalescence

Randomly pick two from these five candidate cells and coalesce (they become sister cells)

2nd coalescence: I1 & T4 are coalesced

Now there are 4 cells as candidates for the next coalescence.

Finally, we have a randomly generated lineage containing all the six terminal cells.

Figure S2