

Additional file 2. Example of log-likelihood function [equation (1)] for estimating population frequencies from pool frequencies. This example shows the likelihood surface for the three possible combinations of x 's that yield a total of 4 pools with detected element presence [i.e. for (x_1, x_2) equal to $(0, 4)$, $(1, 3)$, and $(2, 2)$]. This example demonstrates that, given that the element is present in 4 out of 6 pools, estimation of population frequencies is relatively insensitive to the number of pools that contain 8 or 12 strains. As a consequence, we combined all combinations of x_1 and x_2 under a common category to simplify the analysis.

