



**SUPPLEMENTARY FIGURE.** (a) Frequency spectrum analysis of 4831 Earth minerals, with 652 856 individual mineral-locality data (from mindat.org as of February 2014), employed a Generalized Inverse Gauss-Poisson (GIGP) function to model the number of mineral species for minerals found at from 1 to 15 localities (after Hazen et al. 2015). (b) This model facilitates the prediction of the mineral species accumulation curve (upper curve, "All"), which plots the number of expected mineral species (y-axis) as additional mineral species/locality data (x-axis) are discovered. The vertical dashed line indicates data recorded as of February 1, 2014, in mindat.org. The model also predicts the varying numbers of mineral species known from exactly 1 locality (curve 1) or from exactly 2 localities (curve 2). Note that the number of mineral species from only 1 locality is now decreasing, whereas the number from 2 localities is now increasing, though it will eventually decrease. We predict that the number of minerals known from 2 localities will surpass those from 1 locality when the number of species-locality data exceeds  $\sim 3 \times 10^6$ .