Figure S1. Screen captures of a guiFATES window with the same data as in Figure 1 filtered and sorted in various ways. a) Entire population sorted by m/z -35 peak intensity. b) Zoom in of S1a selecting the bottom half of the particles displayed and a decreased m/z range. c) The data, sorted by cluster, and filtered by size (1-2 um), m/z -35 peak area (0-3000), and clustering statistic (0.8-1). d) The same filtering parameters as S1c with the display limited to clusters 2 and 5.
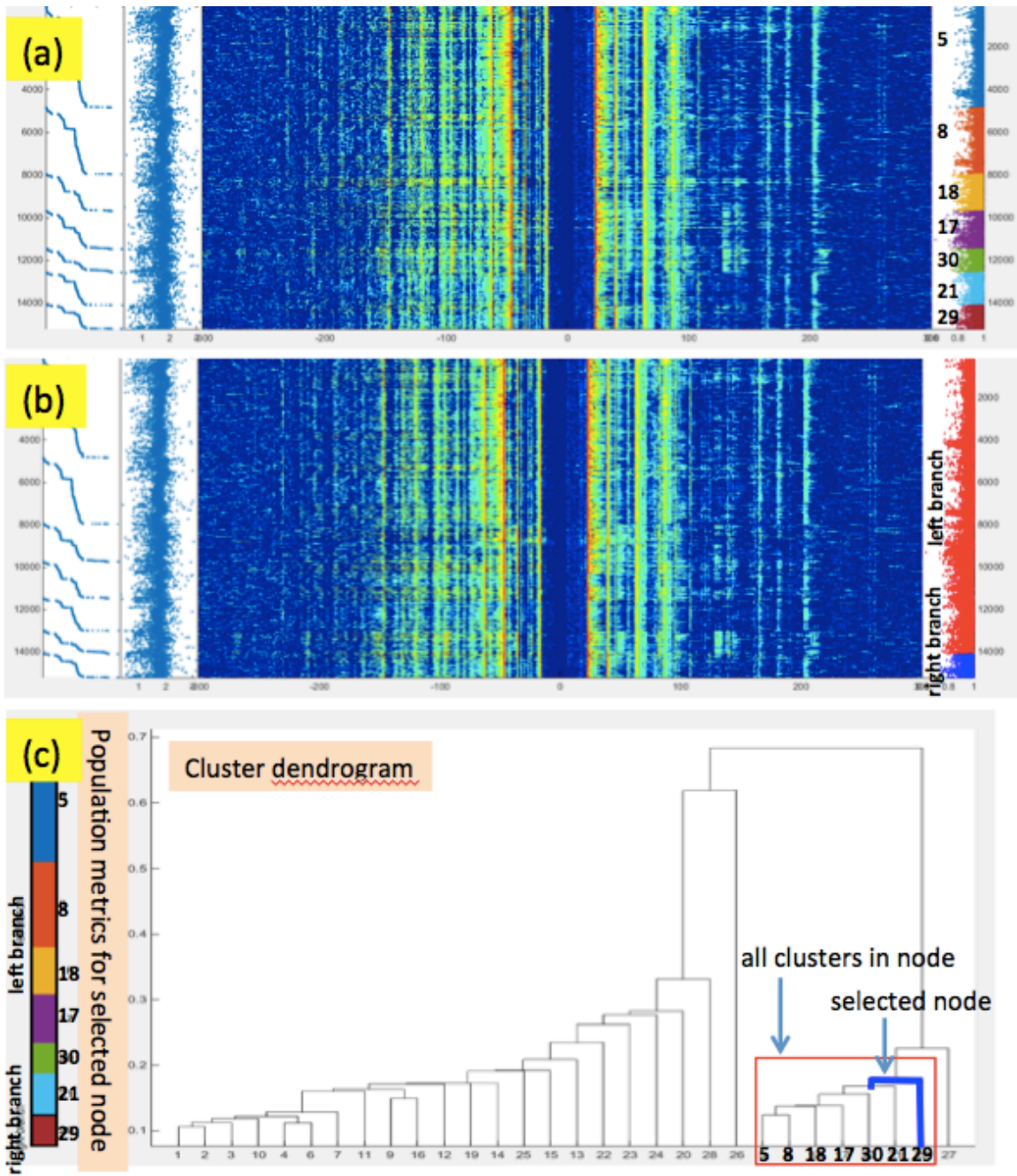
Figure S2. guiFATES windows generated automatically from the selection of a node in Figure 2 (reproduced in Figure S2c). a) The guiFATES window when the user chooses to group particles by their cluster label. The clusters are automatically displayed in the same order as displayed in the dendogram. b) The guiFATES window when the user chooses to group the same data by left or right branch. The clusters are displayed in the same order as displayed in the dendogram.