



Supplementary Figure 4. Tricolor XRF maps of SSF particles from the (a) near-field (station 20, 2550m; GT8705st) and (b) far-field (station 21, 3230m; GT8879st) plumes. Red, green, and blue represent Fe, Mn, and Cl, respectively. In this panel, Cl was used as a tracer of organic aggregates because Cl in seawater is retained within porous organic aggregates as samples dry. Co-location of Fe and Mn appear yellow, Fe and Cl appear magenta, Mn and Cl appear cyan, and all three elements appear white. The color intensities scale with the element concentrations, with the white levels for each color set at 300 cps, 200 cps, and 300 cps for Fe, Mn, and Cl, respectively, for both panels. All scale bars are 200 μm . Similar amounts of water were filtered to collect these samples (378.2 L for GT8705st and 338.0 L for GT8879st).