



**Additional file 4.** Chemical conversion of the sesquiterpene germacrene A to  $\beta$ -elemene at typical GC injector temperatures. Chromatograms show the GC-MS analysis of terpene production for an (E)- $\beta$ -caryophyllene/germacrene A synthase (EGS) with the GC injector temperature at (A) an atypical lower setting, 150 °C or (B) 250 °C, the temperature setting usually employed for standard analysis.