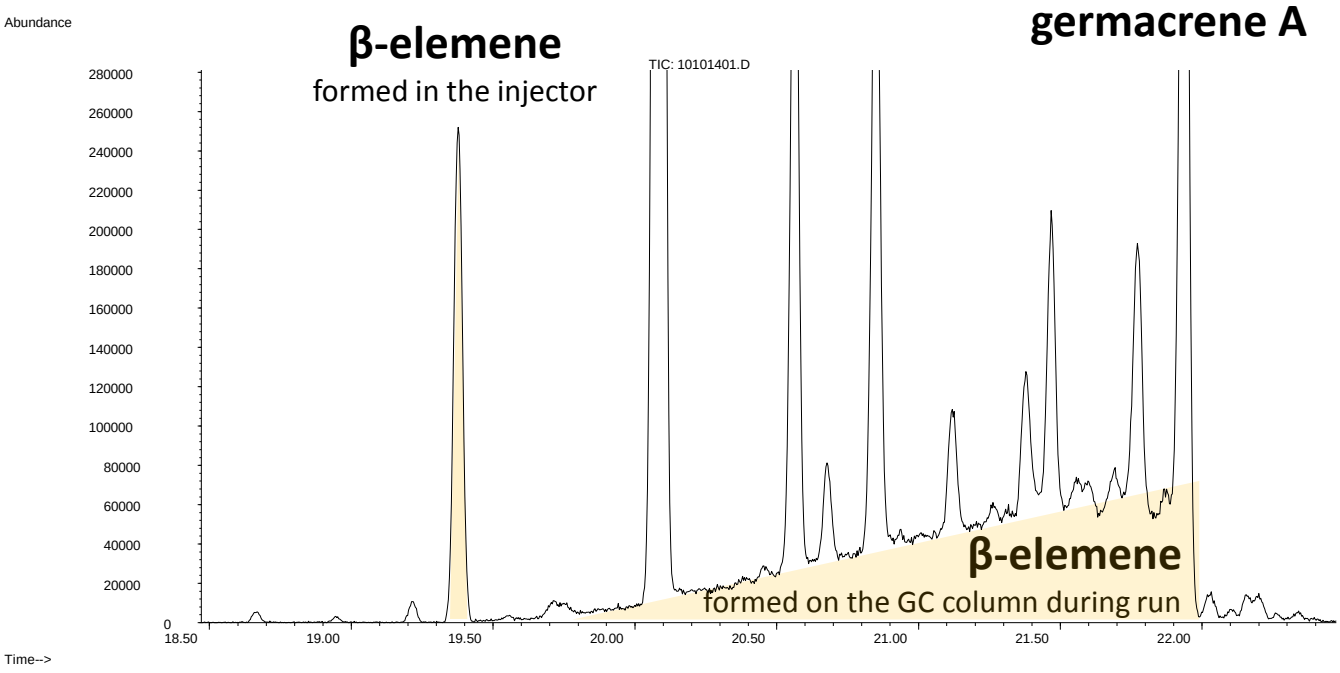

Additional file 5. Chemical conversion of the sesquiterpene germacrene A to β-elemene at a low GC injector temperature. When the injector temperature was set at 150℃, the heat-induced rearrangement of germacrene A to β-elemene occurs not only in the hot GC injector before the GC run but also during the GC run due to the increasing oven temperature. While β-elemene formed in the injector will give a sharp peak in the chromatogram, β-elemene formed during the GC run is visible as a ramp which increases with the retention time and stops exactly with the germacrene A peak. Thus the sum of the peak areas of germacrene A and β-elemene obtained with an injector temperature of 150℃ will not be the same as the peak area of β-elemene obtained with an injector temperature of 250℃.