Fragrance and aroma compounds from herbs could have possible allergenic activity. The aroma compounds with allergenic activity should be declared on the package label when present above certain trigger levels (Figure 1). Different herb extracts and volatile oils were analyzed and characterized using a gas chromatography-mass spectrometry (GC-MS) with a Rtx-5MS capillary column. The capillary column, 30mx0.32mm, 0.25µm film thickness was used in the temperature program from: 50°C for 1min, then increased to 300°C with a rate of 8°C/min, and kept 15min, helium flow rate 1ml/min for compound separation and determination. The GC/MS interface line and the ion source were maintained to 250°C. Electron energy was 70eV and electron emission 300µA. Scan EI mode in the mass rage 30-500Da was followed. The compounds of interest were identified and quantified using TIC peak areas and internal standards.

Figure 1. GC/MS total ion current plot of some volatile possible allergens: limonene, benzyl alcohol, linalool, citronellol, Z-citral, geraniol, E-citral, cinnamal, anisyl alcohol, eugenol methyl eugenol (Tr = 14.68, IS), benzyl benzoate, benzyl cinnamate

References