Electronic Supplementary Material (ESI) for Food & Function.


# Supplementary Information

## Anti-inflammatory effects of cinnamon extract and identification of active compounds influencing the TLR2 and TLR4 signaling pathways

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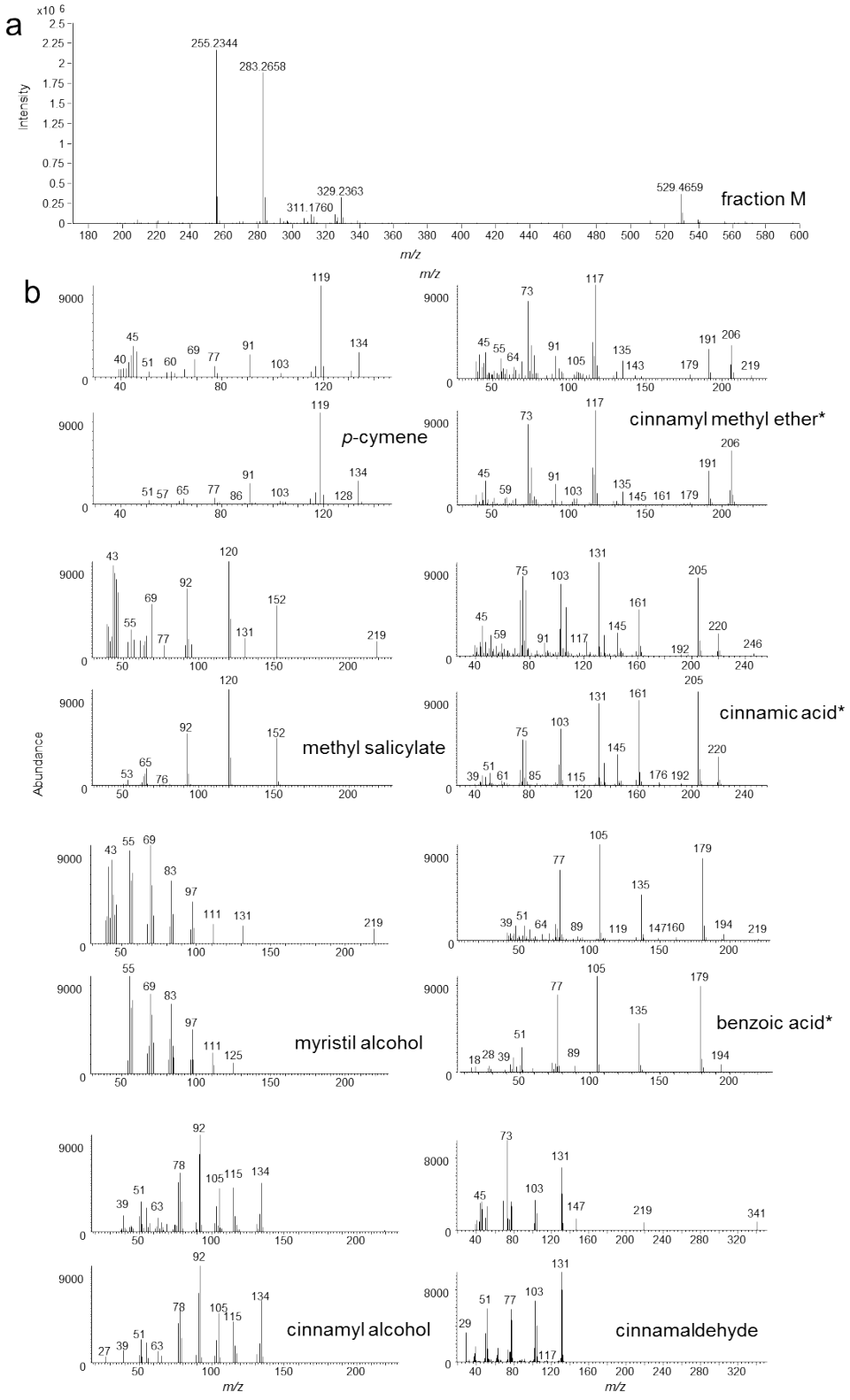



**Figure S1: HRMS and GC-MS spectra of the fractions and compounds identified in 70% aqueous ethanolic cinnamon extract, respectively** (**Table S2**). **a**: (-)ESI-MS spectrum of fraction M. **b**: GC-EI-MS spectra of *p*-cymene and methyl salicylate (fraction B), 1-tetradecanol (myristyl alcohol) (fraction D), cinnamyl alcohol (fraction F) and cinnamaldehyde (fraction M), as well as trimethyl silyl esters(*) of

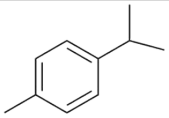
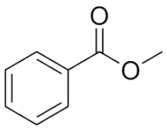
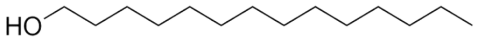
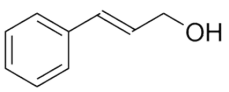
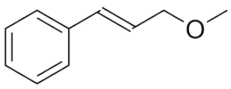
cinnamyl methyl ether, cinnamic and benzoic acid (derivatized fraction F). In each GC-MS spectral comparison, the upper spectrum belongs to the acquired spectrum for the compounds observed in the anti-inflammatory fractions, while the lower spectrum corresponds to compound spectrum contained in the NIST mass spectral library.

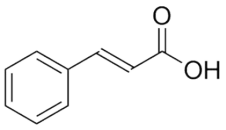
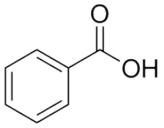
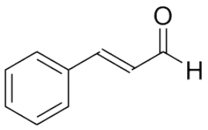
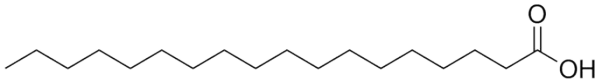
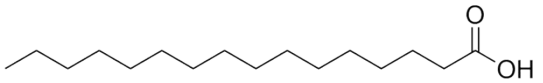
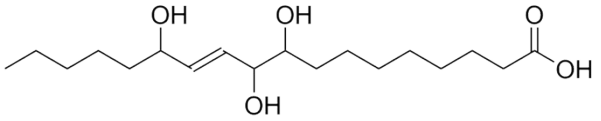
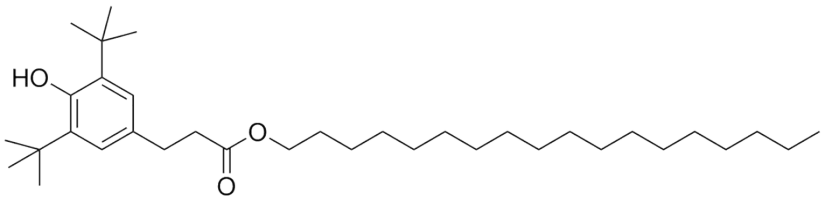
# Tables

**Table S1: Select cinnamon extract fractions and retention times.**
Cinnamon extract was fractionated using HPLC-DAD (Conditions: C18 column and mobile phase composed of acetonitrile and 0.1% formic acid in water, gradient elution). Corresponding chromatogram is shown in **Fig. 3**.

| Fraction name | Retention time (min) |
|---|---|
| Fraction A | 3.20 – 4.00 |
| Fraction B | 4.60 – 6.20 |
| Fraction C | 6.21 – 7.30 |
| Fraction D | 7.31 – 7.99 |
| Fraction E | 8.00 – 10.00 |
| Fraction F | 10.10 – 10.60 |
| Fraction G | 10.80 – 11.80 |
| Fraction H | 13.40 – 13.90 |
| Fraction I | 15.60 – 17.10 |
| Fraction J | 18.20 – 20.00 |
| Fraction K | 21.60 – 22.60 |
| Fraction L | 23.60 – 24.50 |
| Fraction M | 25.40 – 27.40 |
| Fraction N | 27.45 – 30.10 |
| Fraction O | 50.00 – 52.50 |

**Table S2: Anti-inflammatory cinnamon extract fractions and identified compounds with corresponding structures.**
Using GC-MS[1] and HRMS[2], 12 compounds were identified in the anti-inflammatory fractions presented in **Figs. 3** and **4**.

| Fraction name | Identified compound | Structure |
|---|---|---|
| Fraction B | *p*-Cymene[1] |  |
| | Methyl salicylate[1] |  |
| Fraction D | 1-Tetradecanol (myristyl alcohol)[1] |  |
| Fraction F | Cinnamyl alcohol[1] |  |
| | Cinnamyl methyl ether[1] |  |

| | | |
|---|---|---|
| | Cinnamic acid[1] |  |
| | Benzoic acid[1] |  |
| Fraction M | Cinnamaldehyde[1] |  |
| | Stearic acid[2] |  |
| | Palmitic acid[2] |  |
| | 9,10,13,TriHOME(11)[2] |  |
| | Octadecyl 3,5-di-*tert*-butyl-4-hydroxyhydrocinnamate[2] |  |