

|       |           |            |                             | EO flowers<br>TISZA | EO flowers<br>KOMPOLTI | EO leaves<br>TISZA | EO leaves<br>KOMPOLTI | Resin<br>TISZA | Resin<br>KOMPOLTI | <sup>a</sup> IM |
|-------|-----------|------------|-----------------------------|---------------------|------------------------|--------------------|-----------------------|----------------|-------------------|-----------------|
| Rt    | KI<br>let | KI<br>sper | Compounds                   | %±SD                | %±SD                   | %±SD               | %±SD                  | %±SD           | %±SD              |                 |
| 12.51 | 877       | 879        | 2-Methyl-1-butyl<br>acetate |                     |                        | 0,47±0,02          | 0,58±0,04             |                |                   | MS-RT           |
| 13.05 | 932       | 932        | α-pinene                    | 13,73±0,11          | 17,4±0,12              | 7,28±0,05          | 11,08±0,11            | 1,01±0,03      | 0,81±0,03         | Std             |
| 13.61 | 954       | 955        | camphene                    | 0,29±0,02           | 0,41±0,02              |                    |                       |                |                   | Std             |
| 14.63 | 974       | 973        | β-pinene                    | 5,48±0,04           | 6,53±0,11              | 2,74±0,04          | 4,12±0,07             | 0,36±0,02      | 0,27±0,02         | Std             |
| 15.07 | 988       | 992        | β-myrcene                   | 56,56±0,14          | 55,1±0,10              | 11,75±0,09         | 18,21±0,21            | 1,98±0,04      | 1,45±0,05         | Std             |
| 16.43 | 1024      | 1024       | (+)-limonene                | 6,53±0,07           | 10,31±0,05             | 6,92±0,04          | 7,85±0,06             | 0,35±0,02      | 0,33±0,02         | Std             |
| 16.57 | 1031      | 1029       | 1,8-cineole                 |                     |                        | 0,51±0,10          | 1,55±0,05             |                |                   | Std             |
| 18.75 | 1050      | 1051       | cis-β-ocimene               | 1,13±0,05           | 1,04±0,04              | 1,03±0,04          |                       |                |                   | Std             |
| 18.78 | 1097      | 1097       | linalool                    |                     |                        | 0,14±0,01          | 1,53±0,05             |                |                   | Std             |
| 19.33 | 1122      | 1124       | exo-fenchol                 | 0,35±0,02           | 0,52±0,02              | 0,49±0,02          |                       |                |                   | MS-RT           |
| 19.62 | 1132      | 1131       | allo ocimene                | 0,3±0,02            | 0,42±0,02              | 0,39±0,02          |                       |                |                   | MS-RT           |
| 21.75 | 1189      | 1187       | α-terpineol                 | 0,48±0,03           | 0,68±0,03              | 0,65±0,03          | 0,61±0,03             |                |                   | Std             |
| 28.43 | 1419      | 1419       | E-β-caryophyllene           | 2,83±0,06           | 1,19±0,04              | 4,98±0,11          | 5,37±0,08             | 0,89±0,06      | 0,37±0,02         | Std             |
| 28.69 | 1443      | 1444       | Z-β-farnesene               |                     |                        | 1,11±0,06          | 1,12±0,06             |                |                   | Std             |
| 29.03 | 1452      | 1450       | E-β-farnesene               |                     |                        | 0,65±0,04          | 1,05±0,04             |                |                   | Std             |
| 29.32 | 1455      | 1455       | humulene                    | 0,82±0,04           | 0,39±0,02              | 1,57±0,06          | 1,7±0,05              | 0,29±0,01      | 0,23±0,02         | Std             |
| 29.51 | 1460      | 1460       | alloaromadendrene           |                     |                        | 0,97±0,04          | 0,72±0,04             |                |                   | MS-RT           |
| 30.15 | 1490      | 1493       | β-selinene                  |                     |                        | 1,01±0,04          | 0,55±0,04             |                |                   | MS-RT           |
| 30.36 | 1498      | 1499       | α-selinene                  |                     |                        | 1,15±0,04          | 0,61±0,04             |                |                   | MS-RT           |
| 30.47 | 1504      | 1502       | cis-β-bisabolene            | 0,39±0,02           |                        | 1,38±0,03          | 2,13±0,06             |                |                   | MS-RT           |
| 31.28 | 1505      | 1505       | α-farnesene                 | 0,57±0,04           | 0,38±0,02              | 0,78±0,02          |                       | 0,17±0,01      |                   | MS-RT           |
| 31.28 | 1508      | 1509       | α-bisabolene                |                     |                        | 3,23±0,02          | 3,41±0,02             |                |                   | MS-RT           |
| 31.35 | 1508      | 1508       | 7-epi-α-selinene            |                     |                        |                    |                       | 0,56±0,04      | 0,46±0,04         | MS-RT           |
| 31.36 | 1508      | 1509       | trans-β-guaiene             | 0,87±0,06           | 1,22±0,06              |                    |                       |                |                   | MS-RT           |
| 31.40 | 1509      | 1511       | epizonarene                 |                     |                        | 2,61±0,03          | 1,67±0,04             |                |                   | MS-RT           |
| 31.52 | 1547      | 1546       | selina-3,7(11)-diene        | 0,95±0,04           | 1,38±0,05              | 2,8±0,03           | 1,66±0,04             | 0,64±0,04      | 0,54±0,04         | MS-RT           |
| 31.89 | 1583      | 1583       | caryophyllene oxide         |                     |                        | 4,1±0,05           | 4,25±0,05             |                |                   | Std             |

|       |      |      |                                         |                 |                 |                 |                 |                  |                  |       |
|-------|------|------|-----------------------------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|-------|
| 31.91 | 1587 | 1585 | thujosan-2- $\alpha$ -ol                |                 |                 | 3,92 $\pm$ 0,04 | 4,04 $\pm$ 0,04 |                  |                  | MS-RT |
| 31.93 | 1601 | 1604 | cedrol                                  | 0,74 $\pm$ 0,06 | 0,53 $\pm$ 0,04 |                 |                 |                  |                  | Std   |
| 32.77 | 1601 | 1604 | di-epi-1,10-cubenol                     |                 |                 |                 |                 | 0,69 $\pm$ 0,04  | 0,21 $\pm$ 0,02  | MS-RT |
| 32.78 | 1601 | 1606 | guaiol                                  | 1,65 $\pm$ 0,11 | 0,5 $\pm$ 0,02  |                 |                 |                  |                  | Std   |
| 33.44 | 1608 | 1608 | 5-epi-7-epi- $\alpha$ -eudesmol         | 1,64 $\pm$ 0,09 | 0,52 $\pm$ 0,04 |                 |                 | 0,74 $\pm$ 0,05  | 0,23 $\pm$ 0,02  | MS-RT |
| 33.62 | 1632 | 1633 | $\gamma$ -eudesmol                      | 0,34 $\pm$ 0,04 | 0,5 $\pm$ 0,03  |                 |                 |                  |                  | MS-RT |
| 33.72 | 1637 | 1635 | cadin-4-en-7-ol                         |                 |                 | 5,57 $\pm$ 0,05 | 4,44 $\pm$ 0,06 |                  |                  | MS-RT |
| 33.82 | 1640 | 1640 | $\alpha$ -epi cadinol                   |                 |                 | 3,21 $\pm$ 0,07 | 2,59 $\pm$ 0,03 |                  |                  | MS-RT |
| 33.89 | 1642 | 1642 | $\alpha$ -muurolol                      |                 |                 | 0,66 $\pm$ 0,05 |                 |                  |                  | MS-RT |
| 34.12 | 1651 | 1650 | $\beta$ -eudesmol                       | 0,69 $\pm$ 0,04 |                 |                 |                 | 0,38 $\pm$ 0,02  |                  | Std   |
| 34.16 | 1652 | 1652 | cedr-8(15)-en-9- $\alpha$ -ol           |                 |                 | 8,65 $\pm$ 0,12 | 5,84 $\pm$ 0,08 |                  |                  | MS-RT |
| 34.17 | 1654 | 1653 | $\alpha$ -eudesmol                      | 0,81 $\pm$ 0,06 |                 |                 |                 | 0,57 $\pm$ 0,02  |                  | MS-RT |
| 34.33 | 1660 | 1660 | selin-11-en-4- $\alpha$ -ol             |                 |                 | 1,92 $\pm$ 0,05 | 1,23 $\pm$ 0,04 |                  |                  | MS-RT |
| 34.43 | 1663 | 1663 | 7-epi- $\alpha$ -eudesmol               | 1,21 $\pm$ 0,02 | 0,44 $\pm$ 0,02 |                 |                 | 0,74 $\pm$ 0,05  | 0,21 $\pm$ 0,02  | MS-RT |
| 34.66 | 1674 | 1677 | 5-iso-cedranol                          |                 |                 | 9,43 $\pm$ 0,10 | 8,76 $\pm$ 0,09 | 0,74 $\pm$ 0,06  | 0,21 $\pm$ 0,02  | MS-RT |
| 34.69 | 1691 | 1690 | <i>Z</i> - $\alpha$ -trans-bergamotol   | 1,23 $\pm$ 0,03 | 0,34 $\pm$ 0,02 |                 |                 |                  |                  | MS-RT |
| 48.81 | 2375 | 2375 | cannabidiol                             | 0,36 $\pm$ 0,02 | 0,17 $\pm$ 0,01 | 2,8 $\pm$ 0,02  | 0,5 $\pm$ 0,04  | 84,21 $\pm$ 0,26 | 86,48 $\pm$ 0,31 | MS    |
| 49.74 | 2466 | 2466 | trans- $\delta$ -9-tetrahydrocannabinol |                 |                 |                 |                 | 0,89 $\pm$ 0,04  | 0,56 $\pm$ 0,04  | MS    |
| 50.37 | 2520 | 2520 | $\delta$ -8-tetrahydrocannabinol        |                 |                 |                 |                 | 1,68 $\pm$ 0,03  | 2,45 $\pm$ 0,03  | MS    |
| 51.15 | 2546 | 2546 | cannabigerol                            |                 |                 |                 |                 | 0,75 $\pm$ 0,02  | 1,16 $\pm$ 0,02  | MS    |
|       |      |      |                                         | <b>99,95</b>    | <b>99,97</b>    | <b>94,87</b>    | <b>97,17</b>    | <b>97,74</b>     | <b>95,97</b>     |       |

**Table 2. Chemical composition of essential oils and resins from hemp varieties Tisza e Kompolti**

Data are the mean of three replicates  $\pm$  SD

<sup>a</sup> Identification methods (IM): MS: by comparison of the mass spectrum with those of the computer mass libraries Adams and Nist2011 [19, 20] and by interpretation of the mass spectra fragmentations. RI: by comparison of retention index with those reported in literature. Std: by comparison of the retention time and mass spectrum of available authentic standards.