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VOLATILES OF CHAENOMELES JAPONICA (THUNB.) LINDL. EX SPACH FLOWER DIETHYL ETHER EXTRACT

Milena Z. Živković, Niko S. Radulović

e-mail: mika.zivkovic1987@gmail.com

Department of Chemistry, Faculty of Science and Mathematics, University of Niš, Višegradska 33, 18000 Niš, Serbia

Chaenomeles japonica (Thunb.) Lindl. ex Spach is a commonly cultivated thorny deciduous shrub of Japanese Quince belonging to the family Rosaceae. This edible plant species has received little scientific attention and there are only a few investigations done on its chemical composition, mostly of the fruits. Chaenomeles japonica is a short shrub and it grows about 1 m in height. It is best known for its colorful spring flowers of red, white or pink color. The flowers are 3–4.5 cm in diameter, with five petals, flowering in late winter or early spring. Flowers are followed by hard, greenish-yellow fruits (commonly called quinces) which ripen in early autumn.

In the present study we analyzed the diethyl ether extract of the fresh flowers of C. japonica by detailed GC and GC/MS. Fresh flowers of C. japonica were collected in the urban settings of the city of Niš. The extract was mostly comprised of wax n-alkanes with odd-numbered carbon dominance (C_{22} - C_{30} , maximum at C_{29} with 17.3%). The second in abundance group of detected compounds-benzaldehyde (22.8%), benzaldehyde cyanohydrin (1.1%), benzoic acid (10.7%), methyl benzoate (0.1%), benzoyl nitrile (0.1%) and lactonitrile (0.4%), represented hydrolytic products of glycosides of benzaldehyde cyanohydrin or acetaldehyde cyanohydrin typical for Rosaceae species. Other minor constituents detected were the ubiquitous green leaf compounds with hexanal (<0.05%), octanal (0.1%), nonanal (0.1%) and decanal (0.1%) present in the highest percentage.

Keywords: Chaenomeles japonica, diethyl ether extract, n-alkanes, benzaldehyde cyanohydrin, acetaldehyde cyanohydrins

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