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Differences of biochemical constituents and contents of 8 tea cultivars flowers of *Camellia sinensis*

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In order to exploit tea plant flower resources, studies on the biochemical constituents and contents of 8 tea cultivars flowers were carried out. The contents of tea polyphenols, amino acids, caffeine, soluble sugars and soluble proteins were assayed respectively with ferrous tartrate colorimetric method, ninhydrin colorimetric method, ultraviolet spectrophotometric method, anthrone colorimetric method and coomassie brillient blue method, volatile aromatic compounds was extracted by SDE, and analysed with GC/MS. The results showed that the contents of polyphenols, amino acids, caffeine, soluble sugars and soluble proteins in the flowers were 39.635 gkg^{-1}–62.822 gkg^{-1}, 14.654 gkg^{-1}–21.163gkg^{-1}, 12.506 gkg^{-1}–15.436 gkg^{-1}, 164.965 gkg^{-1}–251.948 gkg^{-1} and 68.156 gkg^{-1}–103.568 gkg^{-1}, respectively. The volatile aromatic compounds were dominantly alkanes, alcohols, esters, ketones, aldehydes and alkenes. Among them acetophenone and tricosane existed in each cultivar flowers. Acetophenone, 2-heptanol, (S)-, 1,6-octadien-3-ol, 3,7-dimethyl-, 1,2-benzenedicarboxylic acid, mono(2-ethylhexyl) ester and di-n-octyl phthalate were richer in some cultivar flowers. According to the results, the flowers might be good resources to exploit soluble sugars and soluble proteins for food industries and health products. Acetophenone, 2-heptanol, (S)-, 1,6-octadien-3-ol, 3,7-dimethyl-, 1,2-benzenedicarboxylic acid, mono(2-ethylhexyl) ester could be abstracted from high relative cultivar flowers used for food industries, perfumery industries and pharmacies.