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Volatile components of selected Japanese medicinal plants

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[Introduction] Volatile components of each part (leaf, flower, stem, rhizome, roots, seed) of several medicinal plants *Alpinia japonica* (Zingiberaceae), *Solidago altissima* (Asteraceae), *Polygonum hydropiper* (Polygonaceae), *Cryptotaenia canadensis* (Umbelliferae) and *Zantoxylum piperitum* (Rutaceae) etc. have been analyzed by GC/MS.

[Experimental & Results] Each part of the plants was extracted with ether. Each crude extract was analyzed by capillary GC-MS. The leaves/rhizomes of *A. japonica* contained fenchone (27/30%), fenchyl acetate (2.5/6.6%), fenchyl alcohol (4.9/3.0%) and 1,8-Cineole (13.7/5.3%). Monoterpenoids were in all parts of *S. altissima*. The highest amount (75.6%) was detected in the root oil. The major component was (+)-limonene (48%).

$\alpha$ -Pinene,  $\beta$ -sabinene,  $\beta$ -pinene and limonene and germacrene-D were present as a mixture of both enantiomers. The characteristic pungent taste of *P. hydropiper* is due to polygodol, which was found in seeds, leaves and upper stems along with its isopolygodol. Its very high relative concentration in the seeds, which made up 21% is remarkable. The high concentration of mono- and sesquiterpenoids of *C. canadensis* has been observed in the stems.  $\alpha$ -Pinene was the main component of both leaves and stems of *Z. piperitum*, followed by limonene,  $\beta$ -caryophyllene and 2-tridecanone.