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Ätherisches Adlerholzöl

Literatur

Baranauskiene R, Venskutonis P, Viskelis P, Dambrauskiene E. Influence of nitrogen fertilizers on the yield and composition of thyme (Thymus vulgaris). Journal of Agricultural and Food Chemistry 2003; 51(26): 7751–7758.

Bergner CL, Smolinsky AN, Hart PC, Dufour BD, Egan RJ, LaPorte JL, Kalueff AV. Mouse models for studying depression-like states and antidepressant drugs. Mouse Models for Drug Discovery 2010; 602: 267–282.

Breitmaier PDE. Terpene: Aromen, Düfte, Pharmaka, Pheromone. Weinheim: Wiley-VCH 2005; 28–39.

Buchbauer G, Jirovetz L, Jäger W, Dietrich H, Plank C, Karamat E. Aromatherapy: Evidence for sedative effects of the essential oil of lavender after inhalation. Zeitschrift für Naturforschung C – A Journal of Biosciences 1991; 46(11-12): 1067–1072.

Chen H, Yang Y, Xue J, Wei J, Zhang Z, Chen H. Comparison of compositions and antimicrobial activities of essential oils from chemically stimulated agarwood, wild agar-wood and healthy Aquilaria sinensis (lour.) gilg trees. Molecules 2011; 16(6): 4884–4896.

CITES. Amendments to Appendices I and II of CITES. In Proceedings of Thirteenth Meeting of the Conference of the Parties, Bangkok, Thailand 2004. URL https://bit.ly/2FMyy3N

Dahham S, Hassan L, Ahamed M, Majid A, Majid A, Zulkepli N. In vivo toxicity and antitumor activity of essential oils extract from agarwood (Aquilaria crassna). BMC Complementary and Alternative Medicine 2016; 16(236): 1–11.

Erdmann N. Wie Oud das duftet! Die Welt 6. Jänner 2012. URL https://bit.ly/2OuHLBL

GESTIS-Stoffdatenbank. 4-Phenyl-2-Butanon. URL https://bit.ly/2OxNhUf (30. März 2019).

Hashim Y, Phirdaous A, Azura A. Screening of anticancer activity from agarwood essential oil. Pharmacognosy Research 2014; 6(3): 191–194.

Ishihara M, Tsuneya T, Shiga M, Uneyama K. Three sesquiterpenes from agarwood. Phytochemistry 1991a. 30(2): 563–566.

Ishihara M, Tsuneya T, Uneyama K. Guaiane sesquiterpenes from agarwood. Phytochemistry 1991b; 30(10): 3343–3347.

Ito M, Okimoto K, Yagura T, Honda G, Kiuchi F, Shimada Y. Induction of sesquiterpenoid production by methyl jasmonate in Aquilaria sinensis cell suspension culture. Journal of Essential Oil Research 2005; 17(2): 175–180.

Jayachandran K, Sekar I, Parthiban KT, Amirtham D, Suresh KK. Analysis of different grades of agarwood (Aquilaria malaccensis Lamk.) oil through GC-MS. Indian Journal of Natural Products and Resources 2014; 5(1): 44–47.

Jok V, Nurhaslina C, Hamid KK. Agarwood oil yield as a result of changes in cell morphology due to soaking process. Procedia – Social and Behavior Sciences 2015; 195: 2443–2450.

Jung D. The value of agarwood: Reflections upon its use and history in South Yemen. HeiDOK 2011. DOI 10.11588/heidok.00012039

Kessler D, Baldwin I. Making sense of nectar scents: The effects of nectar secondary metabolites on floral visitors of nicotiana attenuata. The Plant Journal 2007; 49(5): 840–854.

Kim H, Son K, Chang H, Kang S. Anti-inflammatory plant flavonoids and cellular action mechanisms. Journal of Pharmacological Sciences 2004; 96(3): 229–245.

Li M, Liang Y. Li Shizhen and The Grand Compendium of Materia Medica. Journal of Traditional Chinese Medical Sciences 2015. 2(4): 215–216.

Liu Y, Wei J, Gao Z, Zhang Z, Lyu J. A review of quality assessment and grading for agarwood. Chinese Herbal Medicines 2017; 9(1): 22–30.

Men L, Wang Y. The oxidation of yeast alcohol dehydrogenase-1 by hydrogen peroxide in vitro. Journal of Proteome Research 2007; 6(1): 216–225.

Mohr D. Lohnt sich die Investition in Silber mehr als in Gold? Frankfurter Allgemeine Zeitung 5. Februar 2019. URL https://bit.ly/2OzLXjz

Monggoot S, Kulsing C, Wong YF, Pripdeevech P. Incubation of Aquilaria subintegra with microbial culture supernatants enhances production of volatile compounds and improves quality of agarwood oil. Indian Journal of Microbiology 2018; 58(2): 201–207.

Naef R. The volatile and semi-volatile constituents of agarwood, the infected heartwood of aquilaria species: A review. Flavour and Fragrance Journal 2011; 26(2): 73–89.

National Center for Biotechnology Information. 4-Phenyl-2-Butanon. PubChem Compound Database 2005, CID = 17355. Zuletzt geöffnet am 3. Februar 2019. URL https://pubchem.ncbi.nlm.nih.gov/compound/17355

National Center for Biotechnology Information. γ-Eudesmol. PubChem Compound Database 2006, CID = 6432005. Zuletzt geöffnet am 3. Februar 2019. URL https://pubchem.ncbi.nlm.nih.gov/compound/6432005

National Center for Biotechnology Information. α-Gurjenen. PubChem Compound Database 2007, CID = 15560276. Zuletzt geöffnet am 3. Februar 2019. URL https://pubchem.ncbi.nlm.nih.gov/compound/15560276

National Center for Biotechnology Information. Aromadendren. PubChem Substance Database 2008, SID = 52923394. Zuletzt geöffnet am 13. Jänner 2019. URL https://pubchem.ncbi.nlm.nih.gov/substance/52923394

National Center for Biotechnology Information. Valencen. PubChem Substance Database 2009, SID = 80465448. Zuletzt geöffnet am 13. Jänner 2019. URL https://pubchem.ncbi.nlm.nih.gov/substance/80465448

Nikaido H. Permeability of the outer membrane of bacteria. Angewandte Chemie International Edition in English 1979; 18(5): 337–350.

Nor AMA, Chang YS, Mailina J, Husni SS, Nor HH, Nik YY. Comparison of chemical profiles of selected gaharu oils from peninsular malaysia. The Malaysian Journal of Analytical Sciences 2008; 12(2): 338–340.

Nor AMA, Ismail N, Mailina J, Taib M, Rahiman MHF, Hafizi ZM. Chemome-tric study of selected agarwood oils by gas chromatography-mass spectrometry. Journal of Tropical Forest Science 2014; 26(3): 382–388.

Nor AMA, Nurlaila I, Mailina J, Azrina A, Sahrim L, Mohd HFR, Mohd NT. Identification of odor components of agarwood. Jurnal Teknologi 2015; 77(2): 51–55.

Nurhaslina C, Harip MKZ, Musa M, Zaki NAM, Alwi H, Rodhi NM, Hamid KHK (2018). Analysis of sesquiterpenes in agarwood essential oil from hydrodistillation process. Malaysian Journal of Analytical Sciences 2018; 22(2): 353–357.

Pornpunyapat J, Chetpattananondh P, Tongurai C. Mathematical modeling for extraction of essential oil from Aquilaria crassna by hydrodistillation and quality of agarwood oil. Bangladesh Journal of Pharmacology 2011. 6(1): 18–24.

Pripdeevech P, Khummueng W, Park SK. Identification of odor-active components of agarwood essential oils from Thailand by solid phase microextraction-GC/MS and GC-O. Journal of Essential Oil Research (2011); 23(4): 46–53.

Tajuddin SN, Muhamad NS, Yarmo MA, Yusoff MM. Characterization of the chemical constituents of agarwood oils from malaysia by comprehensive two-dimensional gas chromatography-time-of-flight mass spectrometry. Mendeleev Communications 2013; 23(1): 51–52.

Takemoto H, Ito M, Shiraki T, Yagura T, Honda G. Sedative effects of vapor inhalation of agarwood oil and spikenard extract and identification of their active components. Journal of Natural Medicines 2008; 62(1): 41–46.

Talukdar A. Gas chromatography - mass spectrometric analysis of the essential oil of eaglewood (Aquilaria agallocha roxb). International Journal of Pharmacy and Pharmaceutical Sciences 2014; 6(7): 629–931.

Tamuli P, Boruah P, Nath SC, Leclercq P. Essential oil of eaglewood tree: A product of pathogenesis. Journal of Essential Oil Research 2005; 17(6): 601–604.

The Plant List (zuletzt geöffnet am 18. Februar 2019). URL http://www.theplantlist.org/tpl1.1/search?q=aquilaria

Venskutonis P. Effects of drying methods on the composition of thyme (Thymus vulgaris L.) and sage (Salvia officinalis L.). Food Chemistry 1997; 59(2): 219–227.

Venskutonis R, Poll L, Larsen M. Influence of drying and irradiation on the composition of volatile compounds of thyme (Thymus vulgaris L.). Flavour and Fragrance Journal 1996; 11(2): 123–128.

Wang S, Wang C, Peng D, Liu X, Wu C, Guo P, Wei J. Agarwood essential oil displays sedative-hypnotic effects through the GABAergic system. Molecules 2017; 22(12): 1–18.

Wang MR, Li W, Luo S, Zhao X, Ma CH, Liu SX. GC-MS study of the chemical compounds of different Aquilaria sinensis gilgorgans and agarwood from different Asian countries. Molecules 2018a; 23(2168): 1–14.

Wang S, Wang C, Yu Z, Wu C, Peng D, Liu X, Liu Y, Yang Y, Guo P, Wei J. Agarwood essential oil ameliorates restrain stress-induced anxiety and depression by inhibiting HPA axis hyperactivity. International Journal of Molecular Sciences 2018b; 19(11): 1–14.

Yadav D, Mudgal V, Agrawal J, Maurya A, Bawankule D, Chanotiya C, Khan F, Thul S. Molecular docking and ADME studies of natural compounds of agarwood oil for topical anti-inflammatory activity. Current Computer-Aided Drug Design 2013; 9(3): 360–370.

André-Michael Beer, Gerda Dorfinger, Gisela Hillert, Eva Heuberger

Ätherische Öle in der ärztlichen Praxis

Demoskopische Analyse 2019

Literatur

1) Babusyte A et al. Biogenic amines activate blood leukocytes via trace amine-associated receptors TAAR1 and TAAR2. J Leukoc Biol 2013; 93(3): 387–394.

2) Busse D et al. A synthetic sandalwood odorant induces wound-healing processes in human keratinocytes via the olfactory receptor OR2AT4. J Invest Dermatol 2014; 134(11): 2823–2832.

3) Braun T et al. Enterochromaffin cells of the human gut: sensors for spices and odorants. Gastroenterology 2007; 132(5): 1890–1901.

4) Zimmermann E. Aromatherapie für Pflege- und Heilberufe. Stuttgart: Haug Verlag 2018.

5) Spehr J. Molekulare Mechanismen der Chemorezeption trigeminaler Neurone von Säugetieren. Dissertation. Universität Bochum 2004.

6) Neuhaus EM et al. Activation of an olfactory receptor inhibits proliferation of prostate cancer cells. J Biol Chem. 2009; 284(24): 16218–16225.

7) Maßberg D et al. Monoterpene (-)-citronellal affects hepatocarcinoma cell signaling via an olfactory receptor. Arch Biochem Biophys 2015; 566: 100–109.

8) Gautam N et al.: Essential oils and their constituents as anticancer agents: a mechanistic view. Biomed Res Int 2014; 2014: 154106.

9) Ahmad A et al. The impact of plant volatiles on bacterial quorum sensing. Lett Appl Microbiol 2015; 60(1): 8–19.

10) Jaramillo-Colorado B et al. Anti-quorum sensing activity of essential oils from Colombian plants. Nat Prod Res 2012; 26(12): 1075–1086.

11) Kerekes EB et al. Anti-biofilm forming and anti-quorum sensing activity of selected essential oils and their main components on food-related micro-organisms. J Appl Microbiol 2013; 115(4): 933–942.

12) Paza C et al. Drimendiol, a drimane sesquiterpene with quorum sensing inhibition activity. Nat Prod Commun 2013; 8(2): 147–148.

13) de Andrade TU et al. Cardiovascular Activity of the Chemical Constituents of Essential Oils. Molecules 2017; 22(9): 1539.

14) Li Q. Effect of forest bathing trips on human immune function. Environ Health Prev Med 2010; 15(1): 9–17.

15) Sobral MV et al. Antitumor activity of monoterpenes found in essential oils. ScientificWorldJournal 2014; 2014: 953451.

16) Stringer J, Donald G. Aromasticks in cancer care: an innovation not to be sniffed at. Complement Ther Clin Pract 2011; 17(2): 116–121.

17) Karadag E et al. Effects of aromatherapy on sleep quality and anxiety of patients. Nurs Crit Care 2017; 22(2): 105–112.

18) Imanishi J et al.: Anxiolytic effect of aromatherapy massage in patients with breast cancer. Evid Based Complement Alternat Med 2009; 6(1): 123–128.

19) Graham PH et al. Inhalation aromatherapy during radiotherapy: results of a placebo-controlled double-blind randomized trial. J Clin Oncol 2003; 21(12): 2372–2376.

20) Hozumi H et al. Aromatherapies using Osmanthus fragrans oil and grapefruit oil are effective complementary treatments for anxious patients undergoing colonoscopy: A randomized controlled study. Complement Ther Med 2017; 34: 165–169.

21) Kim JT et al. Treatment with lavender aromatherapy in the post-anesthesia care unit reduces opioid requirements of morbidly obese patients undergoing laparoscopic adjustable gastric banding. Obes Surg 2007; 17(7): 920–925.

22) Bakhtshirin F et al. The effect of aromatherapy massage with lavender oil on severity of primary dysmenorrhea in Arsanjan students. Iran J Nurs Midwifery Res 2015; 20(1): 156–160.

23) Paul IM et al. Vapor rub, petrolatum, and no treatment for children with nocturnal cough and cold symptoms. Pediatrics 2010; 126(6): 1092–1099.

24) Hasani A et al. Effect of aromatics on lung mucociliary clearance in patients with chronic airways obstruction. J Altern Complement Med 2003; 9(2): 243–249.

25) Eidt J. Der Einfluss etherischer Öle auf die Stimmung, das Schlafverhalten und die Lungenfunktion von älteren Menschen: Vergleich von Lavendel- und Orangenduft in einer placebokontrollierten Studie. Dissertation. Universität München 2008.

26) Wu JJ et al. Modulatory effects of aromatherapy massage intervention on electroencephalogram, psychological assessments, salivary cortisol and plasma brain-derived neurotrophic factor. Complement Ther Med 2014; 22(3): 456–462.

27) Tillett J et al. The uses of aromatherapy in women's health. J Perinat Neonatal Nurs 2010; 24(3): 238–245.