## Scent and Chemistry

The Molecular World of Odors

Günther Ohloff, Wilhelm Pickenhagen, Philip Kraft

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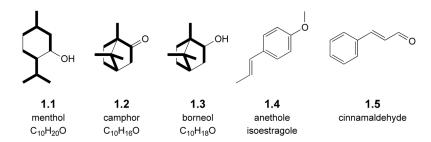


## Corrigenda

Page 4: In the second line deletesupposed possessedand insertsupposed to possess

**Page 5:** The methyl substituent on the aromatic nucleus of anethole (1.4) has to be deleted. Replace the formula block 1.1-1.5 by





**Page 7:** *In line 3 delete* or new odorants (*Figs. 1.1–1.3*).

and insert and synthetic odorants (Figs. 1.1–1.4).

**Page 7:** In line 28 replace Roya Dove

y Roja Dove

**Page 11:** *In line 22 delete* and then *Dior* (1926–1931).

Page 19: In line 19 replaceethylmaltol

by ethyl maltol

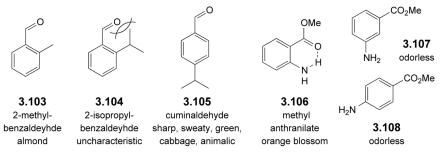
Page 51: In the first line of the entry 'Heart' delete of 'coeur'

and insert or 'cœur'

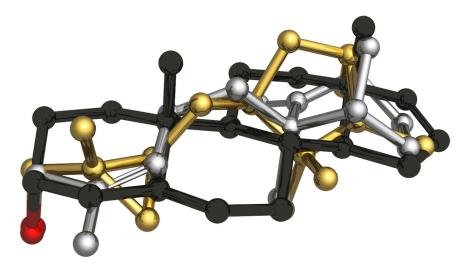
**Page 71:** In line 7 replace smelling  $\alpha$ -Dynascone (3.73) [20] is far less potent than the correspond-

smelling  $\alpha$ -Dynascone (3.73) [20] is far more potent than the correspond-

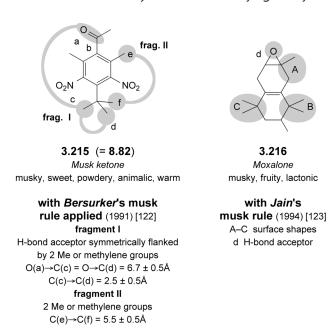
**Page 78:** The hydrogen-bond in methyl anthranilate (3.106) was displayed incorrectly. Replace the formula block 3.103–3.108 by



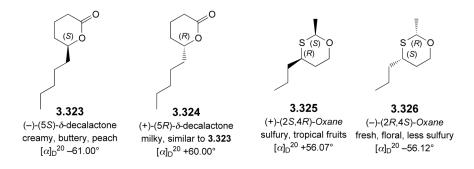
**Page 92:** Inadvertently a ring flip occured in the C-ring of  $5\alpha$ -androst-16-en-3 $\alpha$ -ol (3.158; in black; th 0.00067 ng/l air) upon superposition with (–)-(Z)- $\beta$ -santalol (3.156; in silver; th 0.5 ng/l air) and Javanol (3.190; in gold; th 0.02 ng/l air). Please replace Fig. 3.16 by



Page 102: Feature d in Bersuker's musk rule inadvertently covers the underlying methyl substituent. Replace Fig. 3.21 by



**Page 129:** In the odor description of (+)-(5R)- $\delta$ -decalactone (3.324) it must read 'milky, similar to 3.323', instead of 'milky, similar to 3.333'. Replace the formula line 3.323–3.326 by



Page 150: In line 21 deleteSandal Mysore Core (Kao)and insertSandalmysore Core (Kao)

Page 151: As on page 150, structure 4.78 must be labelled 'Sandalmysore Core', instead of 'Santal Mysore Core'.

Page 196: Inadvertently the methyl group Me-C(9) in pseudoirone (6.25) is missing. Replace Scheme 6.3 by

**Page 217:** In line 13 delete at 0.43% of and insert at 0.43% in

Page 246: In line 26 delete Penhalogon's and insert Penhalogon's

Page 253: In line 26 delete The latter two are probably artifacts formed by dehydration and rearrangement of

(-)-patchoulol (7.158) upon steam distillation.

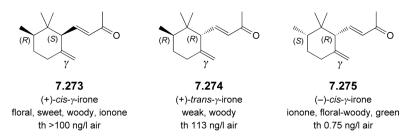
and insert The latter two are present in solvent extracts (hexane) of the fresh leaves, and in the

headspace of the living plant, so are therefore no artifacts.

Page 270: In line 14 delete 'Rose Jacqueminot' (Coty, 1860)

and insert 'Rose Jacqueminot' (Coty, 1904)

**Page 281:** The double bond in (–)-cis- $\gamma$ -irone (7.275) was incorrectly displayed in  $\alpha$ -position. Replace the formulas 7.273–7.275 by



Page 282: In line 5 delete derivatives ent-7.270 and ent-7.271 saturated in the derivatives of ent-7.270 and ent-7.271, saturated in the

**Page 303:** The wedge in the (S)-2-[bis[3,5-bis(trifluoromethyl)phenyl](trimethylsilyloxy)methyl]pyrrolidinium perchlorate catalyst has the wrong orientation. It must point backwards. Please replace the first line of Scheme 7.9 by

**Page 326:** In line 4 delete 'Rêve d'Or' (L. T. Piver, 1889)

and insert 'Rêve d'Or' (L. T. Piver, 1926)

Page 364: In line 7 delete diseco derivative 8.104 a musk odor

and insert diseco derivative **8.105** a musk odor

**Page 375:** *In line 19 delete* unusually high content of 0.5% in the strange intimate perfume

and insert unusually high content of 1.5% in the strange intimate perfume

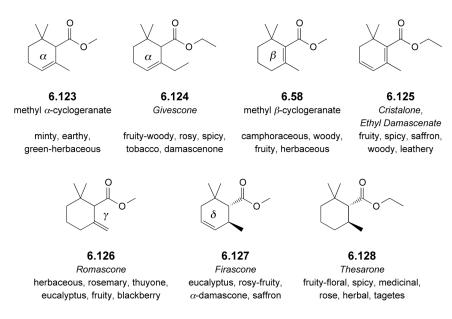
**Page 380:** *The citations* [87] E. Lederer, [...]

and [103] G. Ohloff, [...] have inadvertently been interchanged and need to be changed back.

## **Addenda**

**Page 6:** While the citation [19] is correct, and Otto Wallach did indeed also investigate the sesquiterpenes cadinene, caryophyllene and clovene [O. Wallach, W. Walker, Liebigs Ann. Chem. 1906, 271, 285.], it should be noted after reference '[19].' that 'The exact constitution and stereochemistry of the sesquiterpenes 1.17–1.19 was however elucidated by the groups of *Ruzicka*, *Eschenmoser* and *Barton* only between 1924 and 1954 [L. Ruzicka, M. Stoll, *Helv. Chim. Acta* 1924, 7, 84; A. Eschenmoser, H. H. Gunthard, *Helv. Chim. Acta* 1951, 34, 2338; A. Aebi, D. H. R. Barton, A. W. Burgstahler, A. S. Lindsey, *J. Chem. Soc.* 1954, 4659.].'

**Page 207:** After Fig. 6.2, please insert 'Due to the skin-sensitizing properties of the damascone family, several esters and derivatives **6.123–6.128** of isomeric cyclogeranium acids were also commercialized, which have no use restrictions. As most apparent in methyl  $\beta$ -cyclogeranate (**6.58**), which is not employed in perfumery, the esters **6.123–6.128** often possess however minty-camphoraceous, herbaceous-agrestic side notes that somewhat limit their application range.'



Box 'lonone-Type Materials in Perfumery' (Page 214): Please add 'The modern fougère 'Legend' (Mont Blanc, 2011) by Olivier Pescheux centers around the interplay of Pomarose (6.80) and the oakmoss odorant Evernyl (7.488, p. 319).'

**Box 'Neroli/Orange Blossoms in Perfumery' (Page 241):** *Please add* 'Two exceptionally modern orange blossom scents comprise 'Artisan' (John Varvatos, 2009) by *Rodrigo Flores-Roux* featuring 6% of *Serenolide* (**8.99**, p. 362), and 'Sweet Redemption' (Kilian, 2011) by Calice Becker, the end of Kilians 'L'Oeuvre Noir' series, a perfume saga of the ten stages of love.'

**Page 243:** In the line 4 after 'in lavender oil.' please add 'The discovery, structure elucidation and synthesis of the irregular monoterpene alcohol (–)-(R)-lavandulol (7.124) by Hans Schinz and Casimir F. Seidel [H. Schinz, C.F. Seidel, Helv. Chim. Acta 1942, 25, 1572.] was an important milestone of natural product chemistry.'

**Page 257:** *In the line 16 after* 'for the fragrance chemist.' *please add* 'In 2014, *Firmenich* introduced with *Clearwood* a biotechnological patchouli oil obtained by fermentation of sugars, which possesses the pure odor quality of the terpenic patchouli fraction, and is devoid of artifacts arising from the distillation of twigs, earth and decomposition products, such as pyrazines, pyridines, sulfur compounds, geosmine, and (–)-(*R*)-carvone (7.212). Also in 2014, *Akigalawood*, a natural captive of *Givaudan* that is produced by enzymatic transformations on a fraction of patchouli oil to increase it in components occurring in agarwood oils, had its debut in '#urbano' (Natura, 2014) by *John Gamba*, Natasha Cote, and Veronica Kato.'

**Box 'Jasmine Notes in Perfumery' (Page 264):** *Please add* 'The floral-woody '*Sensous*' (*Estée Lauder*, 2008) by *Annie Buzantian* contains 1.7% of methyl jasmonate (**7.196**/**7.197**). The recently introduced '*Valentina*' (*Valentino*, 2011) by *Olivier Cresp* and *Alberto Morilla* features 7% of *Paradisone* (**7.203**).'

**Box 'Incense and Myrrh in Perfumery' (Page 326):** *Please add* 'An incense–licorice–violet accord was recently used by *Christophe Raynaud* in the creative '*dB Decibel'* (*Azzaro*, 2011), and an incense–raspberry–peach–vanilla–orange blossom accord by *Antoine Maisondieu* in the antagonistic '*Encens & Bubblegum*' (*Etat Libre d'Orange*, 2006). *Antoine Maisondieu* also prominently used distinct incense notes in '*Siete/7*' (*Loewe*, 2010) and its natural counterpart '*7 Natural*' (*Loewe*, 2012).'

**Box 'Black and Pink Pepper in Perfumery' (Page 332):** *Please add* 'Recent pepper-centered fragrances were 'Bang' (Marc Jacobs, 2010) with black, pink and white pepper accords, its follow-up 'Bang Bang' (Marc Jacobs, 2011), both by Yann Vasnier, as well as 'Isfarkand' (Ormonde Jayne, 2005) and 'Kinski' (Kinski Foundation, 2011), both by Geza Schön.'

Box 'Animalic Notes in Perfumery' (Page 374): Please add 'Sylkolide (8.100, p. 362) had its debut at 0.5% in 'Oh, Lola!' (Marc Jacobs, 2011) by Calice Becker and Yann Vasnier. Quentin Bisch used a Serenolide (8.99)/Sylkolide (8.100) combo in the popcorn perfume 'La Fin du Monde' (Etat Libre d'Orange, 2013). Belambre (8.142) is featured as the central odor note of the dry-down of 'Star USA' (John Varvatos, 2011) by Rodrigo Flores-Roux. Amber Xtreme (8.155/8.156) is a recent new ambergris odorant related to Trisamber (8.143), in combination with which it was used in 'Paper Passion' (Steidl/Lagerfeld, 2012) by Geza Schön to convey the specific ambery, somewhat isopropanol—Play Doh odor note of a freshly bound book. The 5a,8a-didehydro acetal analog 8.157 to the main component 8.155 of Amber Xtreme was introduced to perfumery as Operanide (8.157), and has a more woody-mossy character. Operanide (8.157) had its debut at 0.35% in 'Lady Million' (Paco Rabanne, 2010) by Anne Flipo, Beatrice Piquet, Dominique Ropion, and Bruno Jovanovic. It was also used by Dominique Ropion in 'Catch Me' (Cacharel, 2012) and by Olivier Polge and Jean-Christophe Herault in 'Florabotanica' (Cristobal Balenciaga, 2012). The marine woody-amber 'Invictus' (Paco Rabanne, 2013) by Veronique Nyberg, Anne Flipo, Olivier Polge and Dominique Ropion contains ca. 0.1% of Operanide (8.157) and the rather extreme amount of almost 0.5% Amber Xtreme (8.155/8.156) as well as about 1% of Appelide (8.101). An overdose of ca. 3.4% Ambrocenide (8.141) was featured in 'Blamage' (Nasomatto, 2014) by Alessandro Gualtieri.'



8.155 Amber Xtreme main component 63–86%

8.156 Amber Xtreme minor component 4.5–27%



**8.157** Operanide