We thank the reviewers for their careful review of the manuscript. The comments greatly improved our manuscript. We revised our manuscript according to the reviewers' comments and suggestions. Overall, we have changed the mass concentration (μg m^{-3}) to the emission rate (μg min^{-1}) to avoid the influence of cooking time and sampling time according to the comments of the referees. We add more details to the volatility distributions of cooking emissions. We also added more comparisons with different studies. Following are our responses to the comments.

Response to referee #2:

General comments:

Cooking emissions are an important source of primary and secondary organic aerosols in the urban environment. However, detailed speciation of non-methane organic gases (NMOGs) emitted from food cooking is lacking. In this study, Song et al. characterized the VOCs and S/IVOCs from cooking typical Chinese dishes using a TD-GC×GC-qMS. They found that the volatility-polarity distributions of gaseous organic species from four dishes were similar. S/IVOCs were predicted to contribute as high as 32% of the estimated SOA formation. The variations of chemical compositions of NMOGs were mainly caused by the cooking oils instead of cooking styles. This paper provides important information to the atmospheric chemistry and air quality community. However, the conclusions are inconsistent with a recent paper published by the same research group (Yu et al., 2022). For example, this study found that aromatics contributed around 59% of the NMOG emissions from kung pao chicken while only a small fraction was reported by Yu et al. 2022. More discussions and clarifications are needed to address the differences between these two studies. Also, the language should be edited and polished. I recommend this paper be published after addressing the following comments.

Thank you for your comments. We have asked a native speaker to go through our text. Following are our point-to-point responses to the comments.

Specific comments:

The mass concentrations of NMOGs were compared for different dishes. However, the mass concentrations highly depended on the cooking time and sampling time for each dish. Emission rates (mg/min) or emission factors (mg/kg) are more appropriate for comparison of emissions from cooking different dishes.

Thank you for your comment. Unlike vehicular emissions, there was no common sense about the emission rate or emission factor of cooking emissions (Atamaleki et al., 2021). Some studies indeed utilized mass concentration (μg m^{-3}) to demonstrate cooking emissions (Huang et al., 2020). We agree that the mass concentration varies between experiments and the flow rate of cooking fumes are unknown. We convert the mass concentration into emission rates (μg min^{-1}) for a better description of cooking emissions. Following is the revised sentence in the manuscript.

Emission rate (ER, μg min^{-1}) was calculated by the following equation, where c is the blank subtracted mass concentration (μg m^{-3}) of the chemical quantified, and Q is the mass flow of cooking exhaust emissions (15 m^3 min^{-1}).

$$ER = c \times Q \qquad (1)$$

We did the data treatment again and the results of ER, OFP, and SOA are all presented in the mass unit of μg min^{-1}.

The chemical composition of NMOGs for cooking the same dish determined using TD-GC×GC-qMS in this study is inconsistent with that determined using VOCUS-PTR-ToF despite that VOCUS cannot measure alkanes (Yu et al., 2022). TD-GC×GC-qMS detected more aromatics while VOCUS detected more aldehydes. Why is there such a big difference?

Thank you for your comment. This work is indeed related to Zhang et al. EST 2021 and Yu et al., ESTL 2022 sharing the same lab, cooking material, cooking procedures, and edible oils. However, we sampled Tenax TA tubes without dilution, while (Zhang et al., 2021) sampled from diluted cooking fumes (dilution factor of 8). Besides, the on- and off-line experiments were conducted *separately*. The detection range of TD-GC×GC-qMS and Vocus-PTR-ToF also diverged, as the short-chain alkenes, and acids are missing in this work, while long-chain S/IVOCs (<C16), alkanes are not detected in Yu et al., We added more detail as follows.

The compositions of the gaseous emissions are exhibited in Figure S4. Aromatics contributed

59.1%, 23.6%, 8.1%, and 11.8% of the total mass concentration of Kung Pao chicken, fried chicken, pan-fried tofu, and stir-fried cabbage, while oxygenated compounds accounted for 17.1%, 53.7%, 76.9%, and 25.0% of the total concentration, respectively. The compositions of organic in this study diverged from proton transfer reaction mass spectrometer (PTR-MS) measurements (Klein et al., 2016; Liu et al., 2018), in which aldehydes dominated the emission profiles (>60%). The content of aromatics was also different from online Vocus-PTR-ToF measurements in a recent study (Yu et al., 2022). However, the contribution of aromatics was close to a recent study conducted at Chinese restaurants using GC-MS analysis (Huang et al., 2020). The different instruments resulting in different VOC detection ranges could be the explanation for the different patterns. GC×GC-MS is powerful in resolving complex mixtures with carbon numbers of more than 6. The structural chromatograms and detailed mass spectrum information provide a convincing result in chemical identification (An et al., 2021). In contrast, PTR-MS could detect much more short-chain alkenes and aldehydes with carbon numbers less than 4. However, the isomers of PTR-MS could not be distinguished. Alkanes and some long-chain compounds could not be detected by PTR-MS. For instance, the maximum carbon number of pollutants in Yu et al is 16 ($C_{16}H_{26}$) (Yu et al., 2022) while the maximum carbon number of pollutants detected in this work is 30 ($C_{30}H_{62}$). C_2H_6O, C_4H_8, C_4H_8O2, and C_5H_8 were the top species measured by Vocus-PTR-ToF (Yu et al., 2022), which is out of range of our measurement.

The SOA formation potential was estimated by assuming a yield for the potential SOA precursors, which may introduce large uncertainties to the estimation. For example, acetic acid (Table S3) was regarded as an SOA precursor. However, no studies reported that the oxidation of acetic acid can produce SOA. The VOCs used for SOA estimations should have been identified as SOA precursors by previous studies. Also, the SOA estimations are insistent with the measurements by Yu et al. (2022). This study estimated that Kung Pao chicken would produce the highest SOA mass while Yu et al. (2022) measured that Kung Pao chicken formed the lowest SOA mass. The authors should discuss why the estimations are inconsistent with the measurements.

Thank you for your comment. We have double-checked Table S3 and remove those unconvincing yields. We also add references to Table S3.

We also compared the results of SOA estimation and measurement with Yu et al. Large uncertainties remain in SOA estimation. Yu et al measured gas-phase VOC, IVOC, and SVOC precursors by Vocus-PTR-ToF and compared the results with SOA measured from the aerosol mass spectrometer (AMS). 19 ~ 55% of the SOA could be explained. Among them, the SOA estimation from precursors emitted from Kung Pao chicken is the largest even though the SOA mass is the lowest among the four dished (Yu et al., 2022). The SOA estimation in this work is also the largest regarding Kung Pao chicken emissions. Aromatics and alkenes in Kung Pao chicken fumes contributed 63.6% of the SOA estimation, and the top SOA contributor in Yu et al. were sesquiterpenes and aromatics, showing a consistent pattern between these two studies. It should be noticed that more than 45% of the SOA could not be explained (Yu et al., 2022) and more investigations should be carried on to further identify the emission and evolution of cooking fumes in the atmosphere.

The total emission rates, compositions, and volatility-polarity distributions of OFP and SOA estimation by gaseous precursors are displayed in Figure 2, Figure S4, and Figure 3, respectively. The total OFP and SOA estimation are consistent with the emission rate, as Kung Pao chicken emitted the most pollutants and produced the most ozone formation (21125 ± 19447 μg min^{-1}) and SOA formation (584 ± 482 μg min^{-1}). Pan-fried tofu emitted a little bit less than fried chicken, yet produced more SOA estimation due to a large proportion of short-chain acids (hexanoic acid) (Alves and Pio, 2005; Forstner et al., 1997; Kamens et al., 1999). Short-chain acids are likely derived from scission reactions of allylic hydroperoxides originating from unsaturated fatty acids (Chow, 2007; Goicoechea and Guillén, 2014). Although chemicals in the VOC range dominated ozone and SOA formation, an increase in ozone formation contribution and a decrease in SOA formation contribution compared with the mass proportion of VOCs in ERs were observed. VOCs contributed 90.3% - 99.8% of the ozone estimation, and 68.0% - 89.8% of the total SOA estimation, compared with 81.4% - 95.6% in ERs. S/IVOCs explained 10.2% - 32.0% of the SOA estimation. Aromatics (toluene) and alkenes (heptene) were dominant ozone formation precursors in meat-relating dishes (fried chicken, Kung Pao chicken, and pan-fried tofu), while alcohols (butanol and linalool) were predominant for stir-fried cabbage (Atamaleki et al., 2021). Acids (hexanoic acid), aromatics (toluene), alkenes (pinenes), and alkanes were important SOA precursors. We also want to emphasize that there are large uncertainties in SOA estimation. Yu et al measured gas-phase VOC, IVOC, and SVOC precursors by Vocus-PTR-ToF and compared the results with SOA measured from the aerosol mass spectrometer (AMS). 19 ~ 55% of the SOA could be explained. Among them, the SOA estimation from precursors emitted from Kung Pao chicken is the largest even though the SOA mass is the lowest among the four dished (Yu et al., 2022). The SOA estimation in this work is also the largest regarding Kung Pao chicken emissions. Aromatics and alkenes in Kung Pao chicken fumes contributed 63.6% of the SOA estimation, and the top SOA contributor in Yu et al. were sesquiterpenes and aromatics, showing a consistent pattern between these two studies. It should be noticed that more than 45% of the SOA could not be explained (Yu et al., 2022) and more investigations should be carried on to further identify the emission and evolution of cooking fumes in the atmosphere.

Lines 27-28: The authors stated that “Dishes cooked by stir-frying or deep-frying cooking styles emit much more pollutants than relatively mild cooking methods”. However, this is not supported by the measurement. Figure S3 shows that stir-frying cabbage emitted the lowest amount of gaseous species. Which dish was cooked in a mild style? Is it pan-fried tofu?

Thank you for your comment. We have revised the manuscript as follows.

Kung Pao chicken emitted more pollutants than other dishes due to its rather intense cooking method.

Lines 116-117: It is helpful to provide the sampling procures of the Tenax tubes. Is there a breakthrough?

Thank you for your comment.

We did a supplementary experiment to examine the breakthrough effect by introducing pure nitrogen gas to the desorption tube with pre-added standard chemicals (Figure SS1). No significant breakthrough was observed within 24 h (<3%). The sampling time in this work is 15 ~ 30 min (0.5 L min^{-1}) which is much less than 24h. We revised the manuscript as follows.

A Tenax TA breakthrough experiment was conducted by introducing pure nitrogen gas (N_2) with a flow of 0.5 L min^{-1} to the desorption tube with pre-added standard chemicals (Figure S2). No significant breakthrough was observed within 24 h (<3% of TIC). The sampling time in this work is 15 ~ 30 min (0.5 L min^{-1}) which is much less than 24h.

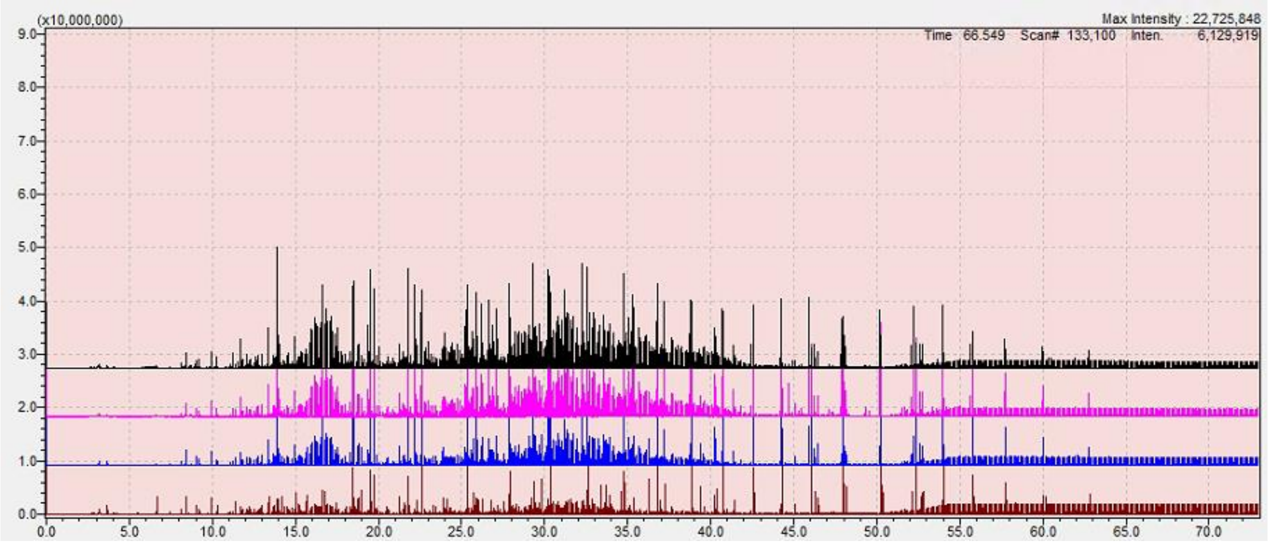

Figure S2. The chromatograms of standard chemicals after 6h（brown），24h（blue），48h (red), and 72h (blue) of flowing by pure nitrogen gas. The flow of nitrogen gas is set to be the same as the sampling flow (0.5 L min^{-1}). No significant breakthrough was observed within 24 h (<3%).

Line 183: Figure S3 displays one of the main results. It should go to the main paper. The unit of the y axis is missing.

Thank you for your comments. We moved the figure to the main paper and added the unit of the *y*-axis.

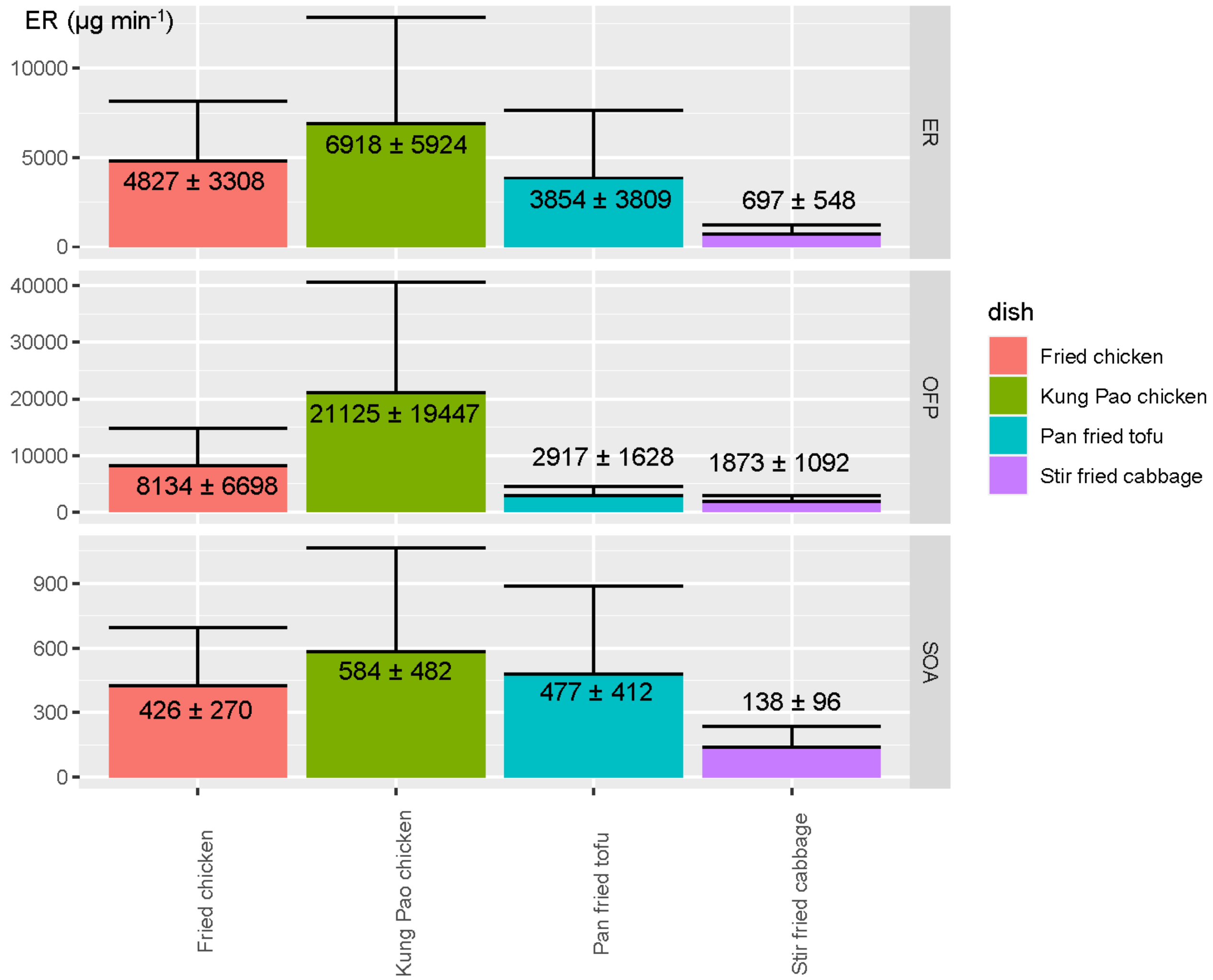

Figure 2. Emission rate (ER), ozone formation potential (OFP), and secondary organic aerosol (SOA) estimation from emissions of fried chicken, Kung Pao chicken, pan-fried tofu, and stir-fried cabbage. The unit of the *y*-axis is μg min^{-1}.

Lines 217-219: Is there any evidence that these small acids can produce SOA?

Thank you for your comments. We have added references to this statement. Besides, the mechanism of propanoic acid (C3-mono acid) oxidation has been added to the MCM model (http://chmlin9.leeds.ac.uk/MCMv3.3.1/roots.htt).

Pan-fried tofu emitted a little bit less than fried chicken, yet produced more SOA estimation due to a large proportion of short-chain acids (hexanoic acid) (Alves and Pio, 2005; Forstner et al., 1997; Kamens et al., 1999).

Line 235: I would suggest moving Figure S7 to the main paper.

Thank you for your comments. We moved the figure to the main paper and added the unit of the *y*-axis.

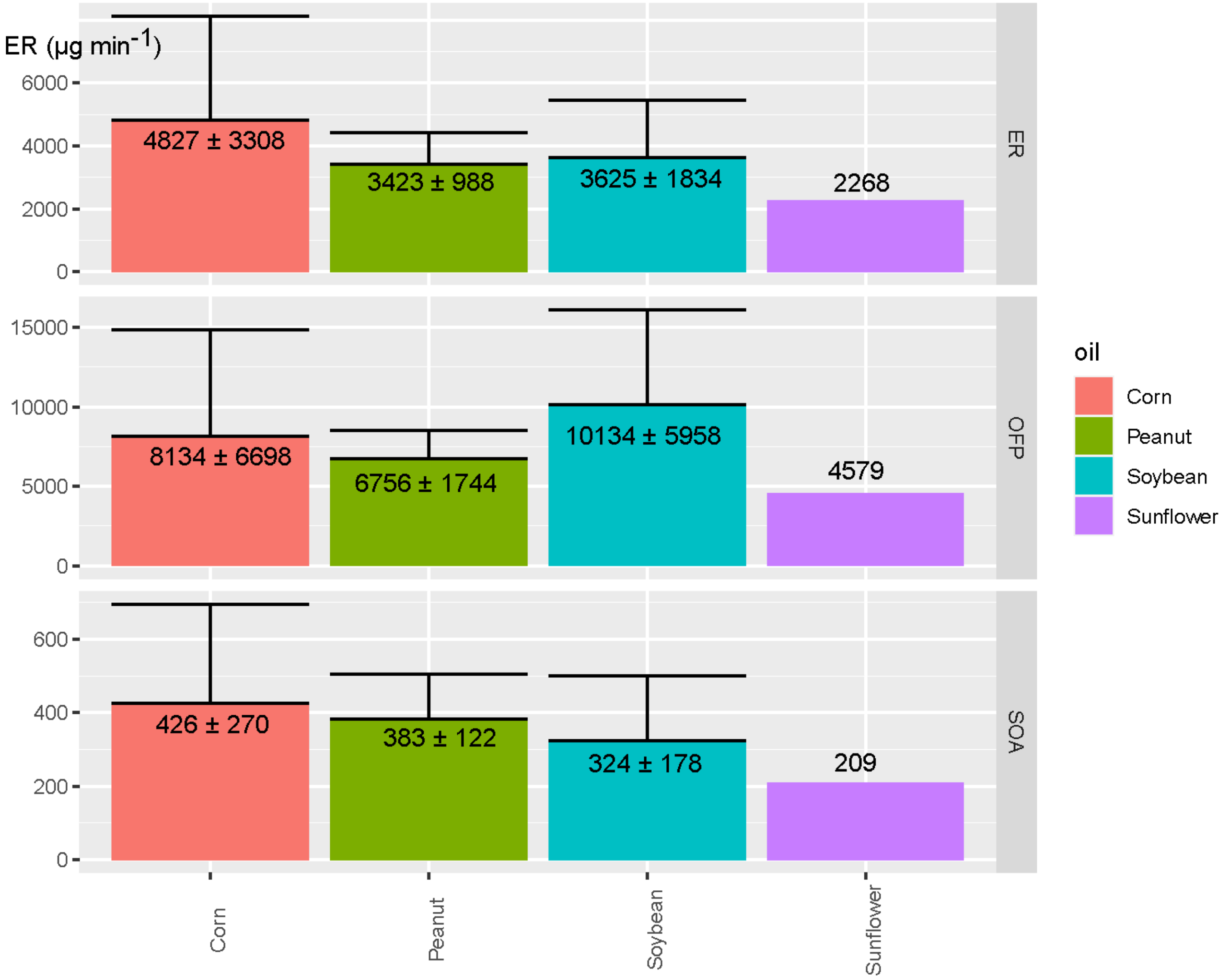

Figure 4. Emission rate (ER), ozone formation potential (OFP), and secondary organic aerosol (SOA) estimation from emissions of fried chicken cooked with corn, peanut, soybean, and sunflower oils. The unit of the *y*-axis is μg min^{-1}.

Lines 319-320: I would suggest removing this statement as Yu et al. (2022) already characterized the S/IVOCs from food cooking.

Thank you for your comments. We have revised the manuscript as follows.

In this work, gaseous VOCs, IVOCs, and SVOCs from cooking fumes are quantified in detail.

Technical corrections:

Line 66: Please consider changing “clarified” to “investigated” or “studied”.

Thank you for your comment. The sentence is revised as follows.

Although chemical compositions, fingerprints, and influencing factors of cooking emissions have been **investigated** in some previous studies (Alves et al., 2021; Klein et al., 2016; Peng et al., 2017; Vicente et al., 2021), there are still questions that remain uncertain.

Table S3: Please list the reference for estimating the SOA yield of each compound.

Thank you for your comment. Table S3 is revised as follows.

Table S3. Chemials quantified, with chemical classes, R^2, MIR, kOH, yield, surrogates and references. The SOA yields of precursors were from literature (Algrim and Ziemann, 2016, 2019; Chan et al., 2009, 2010; Harvey and Petrucci, 2015; Li et al., 2016; Liu et al., 2018; Loza et al., 2014; Matsunaga et al., 2009; McDonald et al., 2018; Shah et al., 2020; Tkacik et al., 2012; Wu et al., 2017) or surrogates from *n*-alkanes in the same volatility bins (Zhao et al., 2014, 2017).

compound	**class detail**	**class**	**R^2**	**MIR**	**OFP surrogate**	**kOH**	**kOH_reference**	**yield**	**yield_surrogate**	**Yield_reference**
C6	alkanes	alkanes	0.98	1.24		5.20	Atkinson and Arey,2003	0.00		Wu et al., 2017
C7	alkanes	alkanes	0.98	1.07		6.76	Atkinson and Arey,2003	0.05		Wu et al., 2017
b-alkanes-C10	b-alkanes	alkanes	0.92	0.68	C10			0.22	C10	
b-alkanes-C11	b-alkanes	alkanes	0.90	0.61	C11			0.33	C11	
b-alkanes-C12	b-alkanes	alkanes	0.99	0.55	C12			0.02	C12	
b-alkanes-C13	b-alkanes	alkanes	0.94	0.53	C13			0.03	C13	
b-alkanes-C14	b-alkanes	alkanes	0.93	0.51	C14			0.05	C14	
b-alkanes-C15	b-alkanes	alkanes	0.98	0.50	C15			0.08	C15	
b-alkanes-C16	b-alkanes	alkanes	0.95	0.45	C16			0.12	C16	
b-alkanes-C17	b-alkanes	alkanes	0.92	0.42	C17			0.20	C17	
b-alkanes-C18	b-alkanes	alkanes	0.96	0.40	C18			0.30	C18	
b-alkanes-C19	b-alkanes	alkanes	0.89	0.38	C19			0.42	C19	
b-alkanes-C20	b-alkanes	alkanes	0.95	0.36	C20			0.56	C20	
Heptane, 2-methyl-	b-alkanes	alkanes	0.76	1.07		8.28	AopWin	0.06	C8	
b-alkanes-C8	b-alkanes	alkanes	0.76	0.90	C8			0.06	C8	
b-alkanes-C9	b-alkanes	alkanes	0.92	0.78	C9			0.14	C9	
Cyclohexane, propyl-	cyclo-alkanes	alkanes	0.92	1.29		13.40	AopWin	0.14	C9	
Cyclopentane, butyl-	cyclo-alkanes	alkanes	0.92	1.29	Cyclohexane, propyl-			0.14	C9	
Bicyclo[5.3.0]decane	cyclo-alkan	alkanes	0.92	1.29	Cyclohexane, propyl-			0.22	C10	

	es									
Cyclohexene, 3-methyl-6-(1-methylethyl)-, trans-	cyclo-alkanes	alkanes	0.92	1.29	Cyclohexane, propyl-			0.22	C10	
Cyclohexene, 4-propyl-	cyclo-alkanes	alkanes	0.92	1.29	Cyclohexane, propyl-			0.14	C9	
Cyclopentene,3-hexyl-	cyclo-alkanes	alkanes	0.90	1.29	Cyclohexane, propyl-			0.33	C11	
alkenes-C12	n-alkanes	alkanes	0.99	1.48	alkenes-C13			0.47		Matsunaga, Aiko,2009
3-Dodecene, (E)-	n-alkanes	alkanes	0.99					0.47	alkenes-C12	
alkenes-C13	n-alkanes	alkanes	0.94	1.48		40.07	AopWin	0.46		Matsunaga, Aiko,2009
alkenes-C14	n-alkanes	alkanes	0.93	1.34		41.48	AopWin	0.50		Matsunaga, Aiko,2009
alkenes-C15	n-alkanes	alkanes	0.98	1.25		42.90	AopWin	0.53		Matsunaga, Aiko,2009
alkenes-C16	n-alkanes	alkanes	0.95	1.25	alkenes-C15			0.64		Matsunaga, Aiko,2009
alkenes-C17	n-alkanes	alkanes	0.92	1.25	alkenes-C15			0.49		Matsunaga, Aiko,2009
alkenes-C18	n-alkanes	alkanes	0.96	1.25	alkenes-C15			0.49	alkenes-C17	
C7	n-alkanes	alkanes	0.98	1.24		5.20	Atkinson and Arey,2003	0.00		Wu et al., 2017
C8	n-alkanes	alkanes	0.98	0.90		8.11	Atkinson and Arey,2003	0.06		Wu et al., 2017
C9	n-alkanes	alkanes	1.00	0.78		9.70	Atkinson and Arey,2003	0.14		Wu et al., 2017
C10	n-alkanes	alkanes	0.99	0.68		11.00	Atkinson and Arey,2003	0.22		Wu et al., 2017
C11	n-alkanes	alkanes	0.97	0.61		12.30	Atkinson and Arey,2003	0.33		Wu et al., 2017
C12	n-alkanes	alkanes	0.99	0.55		13.20	Atkinson and Arey,2003	0.02		Chan et al., 2009
C13	n-alkanes	alkanes	0.98	0.53		15.10	Atkinson and Arey,2003	0.03		Chan et al., 2009
C14	n-alkanes	alkanes	0.99	0.51		17.90	Atkinson and Arey,2003	0.05		Chan et al., 2009
C15	n-alkanes	alkanes	0.99	0.50		20.70	Atkinson and Arey,2003	0.08		Chan et al., 2009
C16	n-alkanes	alkanes	0.99	0.45		23.20	Atkinson and Arey,2003	0.12		Chan et al., 2009
C17	n-alkanes	alkanes	0.99	0.42		28.50	A. W. H. Chan et al,2009	0.20		Chan et al., 2009
C18	n-alkanes	alkanes	0.99	0.40		35.10	A. W. H. Chan et al,2009	0.30		Chan et al., 2009
C19	n-alkanes	alkanes	0.99	0.38		43.20	A. W. H. Chan et al,2009	0.42		Chan et al., 2009

C20	n-alkanes	alkanes	0.99	0.36		53.10	A. W. H. Chan et al,2009	0.56		Chan et al., 2009
C21	n-alkanes	alkanes	1.00	0.34		26.65	AopWin v1.92	0.77		Gentner, 2012
C22	n-alkanes	alkanes	1.00	0.33		28.07	AopWin v1.92	0.96		Gentner, 2012
C23	n-alkanes	alkanes	1.00			29.48	AopWin v1.92	1.08		Gentner, 2012
C24	n-alkanes	alkanes	1.00			30.89	AopWin v1.92	1.14		Gentner, 2012
C26	n-alkanes	alkanes	1.00			33.72	AopWin v1.92	1.14	C24	
C27	n-alkanes	alkanes	0.99			35.13	AopWin v1.92	1.14	C24	
C30	n-alkanes	alkanes	1.00			39.37	AopWin v1.92	1.14	C24	
alk-di-enes-C12	alkenes	alkenes	0.99					0.41	alpha-Pinene	
1-Heptene	alkenes	alkenes	0.95	4.43		40.00	Atkinson and Arey,2003	0.02		Wu et al., 2017
1-Octene	alkenes	alkenes	0.76	3.25		33.00	AopWin	0.05		Matsunaga, Aiko,2009
2-Octene, (E)-	alkenes	alkenes	0.76	6.00		61.83	AopWin	0.05	1-Octene	
3-Nonene	alkenes	alkenes	0.92	6.00	2-Octene, (E)-			0.15	1-Nonene	
1-Nonene	alkenes	alkenes	0.92	2.60		34.42	AopWin	0.15		
2-Nonene	alkenes	alkenes	0.92	6.00	2-Octene, (E)-			0.15	1-Nonene	
1,3-Nonadiene, (E)-	alkenes	alkenes	0.92	2.17	1-Decene			0.15	1-Nonene	
1-Decene	alkenes	alkenes	0.92	2.17		35.83	AopWin	0.32		Matsunaga, Aiko,2009
trans-3-Decene	alkenes	alkenes	0.92					0.32	1-Decene	
Dicyclopentadiene	alkenes	alkenes	0.92					0.34	1-Undecene	Matsunaga, Aiko,2009
1,10-Undecadiene	alkenes	alkenes	0.90	2.17	1-Decene			0.34	1-Undecene	
4-Undecene, (E)-	alkenes	alkenes	0.90	6.00	2-Octene, (E)-			0.34	1-Undecene	
trans,trans-2,9-Undecadiene	alkenes	alkenes	0.90					0.34	1-Undecene	
2-Undecene, (E)-	alkenes	alkenes	0.90	6.00	2-Octene, (E)-			0.34	1-Undecene	
2-Undecene, (Z)-	alkenes	alkenes	0.90	6.00	2-Octene, (E)-			0.34	1-Undecene	
(E,E)-1,3,5-Undecatriene	alkenes	alkenes	0.99	2.17	1-Decene			0.34	1-Undecene	
1,8,11-Heptadecatrien	alkenes	alkenes	0.92	2.17	1-Decene			0.49	alkenes-C17	

e, (Z,Z)-										
alkenes-C17-UCM	alkenes	alkenes	0.92	2.17	1-Decene			0.49	alkenes-C17	
di-isoprenens	di-isoprenes	alkenes	0.92	4.51	alpha-Pinene			0.41	alpha-Pinene	
4,7-Methano-1H-indene, octahydro-,	di-isoprenes	alkenes	0.90					0.41	alpha-Pinene	
Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylethyl)-	di-isoprenes	alkenes	0.92	4.51	alpha-Pinene			0.41	alpha-Pinene	
Bicyclo[3.1.0]hex-2-ene, 4-methyl-1-(1-methylethyl)-	di-isoprenes	alkenes	0.92	4.51	alpha-Pinene			0.41	alpha-Pinene	
alpha-Pinene	di-isoprenes	alkenes	0.92	4.51		52.30	Atkinson and Arey,2003	0.41		Lee et al., 2006
beta-Pinene	di-isoprenes	alkenes	0.92	3.52				0.22	C10	
beta-Myrcene	di-isoprenes	alkenes	0.92	4.51	alpha-Pinene	215.00	Atkinson and Arey,2003	0.11		Lee et al., 2006
D-Limonene	di-isoprenes	alkenes	0.92	4.55		164.00	Atkinson	0.41	alpha-Pinene	
di-isoprenes	di-isoprenes	alkenes	0.92	4.51	alpha-Pinene			0.22	C10	
trans-beta-Ocimene	di-isoprenes	alkenes	0.92			252.00	Atkinson and Arey,2003	0.41	alpha-Pinene	
1,3,6-Octatriene, 3,7-dimethyl-, (Z)-	di-isoprenes	alkenes	0.92	4.51	alpha-Pinene	252.00	Atkinson and Arey,2003	0.41	alpha-Pinene	
Cyclohexene,	di-isoprene	alkenes	0.90	6.36		225.0	Atkinson and Arey,2003	0.20		Lee et al., 2006

1-methyl-4-(1-methyl ethylidene)-	s					0				
Copaene	tri-isoprenes	alkenes	0.93			90.00	Atkinson and Arey,2003	0.41	alpha-Pinene	
Longifolene	tri-isoprenes	alkenes	0.93			47.00	Atkinson and Arey,2003	0.41	alpha-Pinene	
alpha-Patchoulene	tri-isoprenes	alkenes	0.95					0.41	alpha-Pinene	
tri-isoprenes	tri-isoprenes	alkenes	0.95					0.41	alpha-Pinene	
3-Nonen-1-yne, (E)-	alkynes	alkynes	0.92					0.15	1-Nonene	
alkynes-C12	n-alkynes	alkynes	0.99					0.47	alkenes-C12	
alkynes-C13	n-alkynes	alkynes	0.94					0.46	alkenes-C13	
alkynes-C14	n-alkynes	alkynes	0.93					0.50	alkenes-C14	
alkynes-C15	n-alkynes	alkynes	0.98					0.53	alkenes-C15	
alkynes-C16	n-alkynes	alkynes	0.95					0.64	alkenes-C16	
alkynes-C17	n-alkynes	alkynes	0.92					0.49	alkenes-C17	
alkynes-C18	n-alkynes	alkynes	0.96					0.49	alkenes-C17	
Toluene	aromatics	aromatics	0.94	4.00		5.63	Atkinson and Arey,2003	0.10		Chan et al., 2009
Ethylbenzene	aromatics	aromatics	0.89	3.04		7.00	Atkinson and Arey,2003	0.10		Chan et al., 2009
p-Xylene	aromatics	aromatics	0.87	5.84		14.30	Atkinson and Arey,2003	0.06		Chan et al., 2009
Styrene	aromatics	aromatics	0.71	1.73		58.00	Atkinson and Arey,2003	0.22		Fang et al., 2017
o-xylene	aromatics	aromatics	0.71	5.84	p-Xylene			0.06	*p*-Xylene	
Benzene, (1-methylethyl)-	aromatics	aromatics	0.98	2.52		6.30	Atkinson and Arey,2003	0.03		Li et al., 2016
Benzene, 1-ethyl-4-methyl-	aromatics	aromatics	0.63	4.44		11.80	Atkinson and Arey,2003	0.10		Chan et al., 2009
Benzene, 1,2,3-trimethyl-	aromatics	aromatics	0.63	11.97		32.70	Atkinson and Arey,2003	0.08		Li et al., 2016

Benzene, 1-ethyl-2-methyl-	aromatics	aromatics	0.63	7.39	Benzene, 1-ethyl-3-methyl-		0.08	Benzene, 1-ethyl-2-methyl-
Benzene, 1,2,4-trimethyl-	aromatics	aromatics	0.63	8.87	32.50	Atkinson and Arey,2003	0.06	Chan et al., 2009
Benzene, 1-ethyl-3-methyl-	aromatics	aromatics	0.63	7.39	18.60	Atkinson and Arey,2003	0.10	Chan et al., 2009
o-Cymene	aromatics	aromatics	0.63	5.49	8.54	AopWin	0.06	Benzene, 1,2,4-trimethyl-
2-Methylphenylacetylene	aromatics	aromatics	0.63	1.73	Styrene		0.06	Benzene, 1,2,4-trimethyl-
Benzene, 1-methyl-2-propyl-	aromatics	aromatics	0.63	5.49	8.80	AopWin	0.06	Benzene, 1,2,4-trimethyl-
aromatics-C4-surrogate	aromatics	aromatics	0.63	2.36	8.72	AopWin	0.10	Benzene, propyl-
Benzene, 2,4-dimethyl-1-(1-methylethyl)-	aromatics	aromatics	0.63	8.87	Benzene, 1,2,4-trimethyl-		0.10	Benzene, propyl-
Benzene, hexyl-	aromatics	aromatics	0.63	2.12	Benzene, pentyl-		0.10	Benzene, propyl-
Benzene, (1-methylnonyl)-	aromatics	aromatics	0.97	7.39	Benzene, 1-ethyl-3-methyl-		0.10	Benzene, propyl-
1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3-phenyl-	aromatics	aromatics	0.97	1.73	Styrene		0.10	Benzene, propyl-
2,4-Diphenyl-4-methyl-1-pentene	aromatics	aromatics	0.97	2.12	Benzene, pentyl-		0.10	Benzene, propyl-
Benzene, 1,1'-(1,1,2,2-tetramethyl-1,2-ethanediyl)bis-	aromatics	aromatics	0.97	7.39	Benzene, 1-ethyl-3-methyl-		0.10	Benzene, propyl-
2,4-Diphenyl-4-methy	aromatics	aromatics	0.97	2.12	Benzene, pentyl-		0.10	Benzene, propyl-

l-2(E)-pentene										
Benzene, 1,1'-(3,3-dimethyl-1-butenylidene)bis-	aromatics	aromatics	0.97	7.39	Benzene, 1-ethyl-3-methyl-			0.10	Benzene, propyl-	
Benzene, propyl-	aromatics	aromatics	0.88	2.03		5.80	Atkinson and Arey,2003	0.10		Chan et al., 2009
aromatics-C3	aromatics	aromatics	0.63	2.03		5.80	Atkinson and Arey,2003	0.10		Chan et al., 2009
aromatics-C4	aromatics	aromatics	0.63	2.36		8.72	AopWin	0.10	Benzene, propyl-	
Benzene, pentyl-	aromatics	aromatics	0.63	2.12		10.14	AopWin	0.10	Benzene, propyl-	
Benzene, 1-methyl-3-propyl-	aromatics	aromatics	0.63	7.10		15.25	AopWin	0.10	Benzene, propyl-	
Indane	aromatics	aromatics	0.63	3.32		19.00	Atkinson and Arey,2003	0.08		Gentner, 2012
1H-Indene, 2,3-dihydro-4-methyl-	aromatics	aromatics	0.63					0.08	Indane	
Indane, 1-methyl-	aromatics	aromatics	0.63	3.32	Indane			0.08	Indane	
Phenol, 2-chloro-	chlorides	chlorides	0.95			9.87	AopWin v1.92	0.22	C10	
Bis(2-chloro-1-methylethyl) ether	chlorides	chlorides	0.82					0.22	C10	
Trichloroethylene	chlorides	chlorides	0.82	0.64		0.80	AopWin	0.06	C8	
Tetrachloroethylene	chlorides	chlorides	0.82	0.03		0.21	AopWin	0.06	C8	
Phenol, 4-chloro-3-methyl-	chlorides	chlorides	0.96					0.38	Phenol	
N-Nitrosodimethylamine	amines	nitrogen-containing compounds	0.76					0.06	C8	
Cyclohexane, isocyanato-	CN	nitrogen-containing compounds	0.92					0.22	C10	
Nitric acid, pentyl ester	nitrates	nitrogen-containing	0.93					0.14	C9	

		compounds					
Decanenitrile	nitriles	nitrogen-containing compounds	0.99	8.74	AopWin v1.92	0.03	C13
Benzonitrile	nitriles	nitrogen-containing compounds	0.75	0.34	AopWin	0.22	C10
o-Nitroaniline	nitro	nitrogen-containing compounds	0.89	13.45	AopWin v1.92	0.05	C14
Pentane, 1-nitro-	nitro-alkanes	nitrogen-containing compounds	0.92			0.14	C9
Benzene, 2-methyl-1,3-dinitro-	nitrophenols	nitrogen-containing compounds	0.96	0.27	AopWin v1.92	0.05	C14
Benzene, 1-methyl-2,4-dinitro-	nitrophenols	nitrogen-containing compounds	0.96	0.27	AopWin v1.92	0.08	C15
Pyridine, 2-pentyl-	pyridines	nitrogen-containing compounds	0.97			0.02	C12
Benzothiazole	SN	nitrogen-containing compounds	0.97			0.02	C12
Cyclohexane, isothiocyanato-	SN	nitrogen-containing compounds	0.97			0.02	C12
1,2-Benzisothiazole	SN	nitrogen-con	0.97			0.02	C12

		taining compounds						
Undecanoic acid	acids	oxygenated compounds	0.97		12.59	AopWin v1.92	0.05	C14
Tridecanoic acid	acids	oxygenated compounds	0.88		15.42	AopWin v1.92	0.12	C16
Acetic acid	acids	oxygenated compounds	0.32	0.68	0.62	AopWin		
Butanoic acid, 3-methyl-	acids	oxygenated compounds	0.92	4.23	4.10	AopWin	0.06	C8
Butanoic acid, 2-methyl-	acids	oxygenated compounds	0.92	4.23	Butanoic acid, 3-methyl-		0.06	C8
Pentanoic acid	acids	oxygenated compounds	0.32		4.11	AopWin	0.14	C9
Hexanoic acid	acids	oxygenated compounds	0.32		5.52	AopWin v1.92	0.22	C10
Heptanoic acid	acids	oxygenated compounds	0.81		6.94	AopWin v1.92	0.33	C11
Benzoic acid	acids	oxygenated compounds	0.32		1.24	AopWin v1.92	0.02	C12
Octanoic acid	acids	oxygenated compounds	0.32				0.02	C12
Nonanoic acid	acids	oxygenated compounds	0.32		9.76	AopWin v1.92	0.03	C13
Phenylmaleic anhydride	acids	oxygenated compounds	0.88				0.08	C15
2-Hexenal, (E)-	aldehyde-enes	oxygenated compounds	0.96		2-Hexenal		0.02	pentanal
Furfural	aldehyde-e	oxygenated	0.96		37.42	AopWin	0.02	pentanal

	nes	compounds						
2-Hexenal	aldehyde-enes	oxygenated compounds	0.96		38.52	AopWin	0.02	pentanal
4-Heptenal, (Z)-	aldehyde-enes	oxygenated compounds	0.96	2-Hexenal			0.02	pentanal
2-Heptenal, (Z)-	aldehyde-enes	oxygenated compounds	0.96	2-Hexenal			0.02	pentanal
4-Oxohex-2-enal	aldehyde-enes	oxygenated compounds	0.96	2-Hexenal			0.02	pentanal
aldehyde-enes-trans-2-Dodecenal-surrogate	aldehyde-enes	oxygenated compounds	0.96	2-Hexenal			0.02	pentanal
2-Heptenal, (E)-	aldehyde-enes	oxygenated compounds	0.96	2-Hexenal			0.02	pentanal
2,4-Heptadienal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
2,4-Heptadienal, (E,E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
2-Octenal, (E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
4-Nonenal, (E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
2-Nonenal, (Z)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
2-Nonenal, (E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
2,4-Nonadienal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal
4-Decenal, (E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal			0.02	pentanal

2,4-Nonadienal, (E,E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2-Decenal, (Z)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
(Z)-3-Phenylacrylaldehyde	aldehyde-enes	oxygenated compounds	0.98		0.02	pentanal
2-Decenal, (E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2,4-Decadienal, (E,Z)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
cis-Undec-4-enal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2,4-Decadienal, (E,E)-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2-Undecenal, E-	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2,4-Decadienal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2-Undecenal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2,4-Dodecadienal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
2-Dodecenal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
7,11-Hexadecadienal	aldehyde-enes	oxygenated compounds	0.98	2-Hexenal	0.02	pentanal
Neophytadiene	aldehyde-enes	oxygenated compounds	0.96		0.41	alpha-Pinene

Pentanal	aldehydes	oxygenated compounds	0.96	4.35	Hexanal	28.00	Atkinson and Arey,2003	0.02		Chan et al., 2009
2-Furanol, tetrahydro-	aldehydes	oxygenated compounds	0.96					0.02	pentanal	
Hexanal	aldehydes	oxygenated compounds	0.96	4.35		30.00	Atkinson and Arey,2003	0.02	pentanal	
Heptanal	aldehydes	oxygenated compounds	0.97	3.69		30.00	Atkinson and Arey,2003	0.02	pentanal	
Benzaldehyde	aldehydes	oxygenated compounds	0.96			12.00	Atkinson and Arey,2003	0.38		Fang et al., 2017
Octanal	aldehydes	oxygenated compounds	0.97	3.16		31.66	AopWin v1.92	0.02	pentanal	
3-Cyclohexene-1-carboxaldehyde, 1-methyl-	aldehydes	oxygenated compounds	0.98					0.02	pentanal	
Benzeneacetaldehyde	aldehydes	oxygenated compounds	0.98		Benzeneacetaldehyde	26.31	AopWin v1.92	0.38	benzaldehyde	
Nonanal	aldehydes	oxygenated compounds	0.98	3.16	Octanal	33.07	AopWin v1.92	0.02	pentanal	
Decanal	aldehydes	oxygenated compounds	0.98	3.16	Octanal	34.48	AopWin v1.92	0.02	pentanal	
2-Sec-Butylcyclohexanone	aldehydes	oxygenated compounds	0.98					0.02	pentanal	
4-Oxononanal	aldehydes	oxygenated compounds	0.98					0.02	pentanal	
Cyclohexanone, 2-butyl-	aldehydes	oxygenated compounds	0.98					0.02	pentanal	
Undecanal	aldehydes	oxygenated compounds	0.98	3.16	Octanal			0.02	pentanal	
Dodecanal	aldehydes	oxygenated	0.98	3.16	Octanal			0.02	pentanal	

		compounds								
Tridecanal	aldehydes	oxygenated compounds	0.98	3.16	Octanal			0.02	pentanal	
1-Hexanol	alkanols	oxygenated compounds	0.96	2.69		15.00	Atkinson and Arey,2003	0.00	1-butanol	
1-Heptanol	alkanols	oxygenated compounds	0.95	1.84		14.00	Atkinson and Arey,2003	0.05	n-heptane	
1-Decanol	alkanols	oxygenated compounds	0.97	1.43	1-Octanol	15.37	AopWin v1.92	0.50		Lucas B. Algrim,2019
1-Butanol	alkanols	oxygenated compounds	0.78	2.88		8.50	Atkinson and Arey,2003	0.00	1-butanol	Wu et al., 2017
1-Pentanol	alkanols	oxygenated compounds	0.78	2.83		11.00	Atkinson and Arey,2003	0.00	1-butanol	
3,3-Dimethylbutane-2-ol	alkanols	oxygenated compounds	0.78					0.05	n-heptane	
Cyclopentanol, 2-methyl-, trans-	alkanols	oxygenated compounds	0.78					0.05	n-heptane	
2-Heptanol	alkanols	oxygenated compounds	0.84	1.84	1-Heptanol			0.05	n-heptane	
2-Octanol	alkanols	oxygenated compounds	0.80	1.43	1-Octanol			0.06	C8	
Cyclohexanol, 2,4-dimethyl-	alkanols	oxygenated compounds	0.80					0.06	C8	
3,4-Dimethylcyclohexanol	alkanols	oxygenated compounds	0.80					0.06	C8	
1-Octanol	alkanols	oxygenated compounds	0.99	1.43		14.00	Atkinson and Arey,2003	0.50	1-Decanol	
1-Nonanol	alkanols	oxygenated compounds	0.97	1.43	1-Octanol	13.96	AopWin v1.92	0.50	1-Decanol	

6-Undecanol	alkanols	oxygenated compounds	0.65	1.43	1-Octanol			0.10	5-Decanol	Lucas B. Algrim,2019
1-Undecanol	alkanols	oxygenated compounds	0.99	1.43	1-Octanol	16.78	AopWin v1.92	0.50	1-Decanol	
1-Octen-3-ol	alkanols	oxygenated compounds	0.84					0.05	1-Octene	
2-Octen-1-ol, (E)-	alkanols	oxygenated compounds	0.80					0.05	1-Octene	
alkenols-1-Tridecanol-surrogate	alkanols	oxygenated compounds	0.65					0.46	alkenes-C13	
1,2-Heptanediol	di-ols	oxygenated compounds	0.84					0.05	n-heptane	
Benzene, 1-methoxy-4-(1-propenyl)-, (Z)-	esters	oxygenated compounds	0.69					0.10	Benzene, propyl-	
2(3H)-Furanone, dihydro-3-methyl-	esters	oxygenated compounds	0.93			2.72	AopWin v1.92	0.14	C9	
2(3H)-Furanone, dihydro-5-methyl-	esters	oxygenated compounds	0.93					0.14	C9	
2H-Pyran-2-one, tetrahydro-3-methyl-	esters	oxygenated compounds	0.66					0.33	C11	
Methyl myristoleate	esters	oxygenated compounds	0.99	0.44	Hexadecanoic acid, methyl ester			0.20	C17	
Benzoic acid, 2-ethylhexyl ester	esters	oxygenated compounds	0.89	0.98		11.54	AopWin	0.20	C17	
Methyl (Z)-10-pentadecenoate	esters	oxygenated compounds	0.99	1.70	9-Hexadecenoic acid, methyl ester, (Z)-			0.30	C18	
9-Hexadecenoic acid,	esters	oxygenated	0.98	1.70		71.89	AopWin	0.42	C19	

methyl ester, (Z)-		compounds						
Methyl gamma linolenate	esters	oxygenated compounds	0.98	2.32	180.96	AopWin	0.56	C20
9-Octadecenoic acid (Z)-, methyl ester	esters	oxygenated compounds	0.98	1.54	74.72	AopWin	0.77	C21
9,12-Octadecadienoic acid (Z,Z)-, methyl ester	esters	oxygenated compounds	0.98	1.84	127.81	AopWin	0.77	C21
9-Octadecenoic acid, methyl ester, (E)-	esters	oxygenated compounds	0.99	1.54	9-Octadecenoic acid (Z)-, methyl ester		0.77	C21
5,8,11,14,17-Eicosapentaenoic acid, methyl ester, (all-Z)-	esters	oxygenated compounds	0.95	1.84	9,12-Octadecadienoic acid (Z,Z)-, methyl ester		0.96	C22
5,8,11,14-Eicosatetraenoic acid, methyl ester, (all-Z)-	esters	oxygenated compounds	0.98	1.84	9,12-Octadecadienoic acid (Z,Z)-, methyl ester		1.08	C23
cis-11,14,17-Eicosatrienoic acid, methyl ester	esters	oxygenated compounds	0.97	1.84	9,12-Octadecadienoic acid (Z,Z)-, methyl ester		1.08	C23
4,7,10,13,16,19-Docosahexaenoic acid, methyl ester, (all-Z)-	esters	oxygenated compounds	0.95	1.84	9,12-Octadecadienoic acid (Z,Z)-, methyl ester		1.14	C24
13-Docosenoic acid, methyl ester	esters	oxygenated compounds	0.98				1.14	C24
15-Tetracosenoic acid, methyl ester, (Z)-	esters	oxygenated compounds	0.90				1.14	C24
Ethyl Acetate	esters	oxygenated compounds	0.93	0.63	1.70	AopWin	0.06	C8

Acetic acid, butyl ester	esters	oxygenated compounds	0.93	0.83		4.61	AopWin	0.06	C8
Formic acid, pentyl ester	esters	oxygenated compounds	0.93	0.83	Acetic acid, butyl ester			0.06	C8
Acetic acid, hexyl ester	esters	oxygenated compounds	0.66	0.83	Acetic acid, butyl ester			0.22	C10
n-Caproic acid vinyl ester	esters	oxygenated compounds	0.66	0.83	Acetic acid, butyl ester			0.22	C10
2(3H)-Furanone, 5-butyldihydro-	esters	oxygenated compounds	0.69					0.02	C12
Hexanoic acid, pentyl ester	esters	oxygenated compounds	0.69	0.44	Hexadecanoic acid, methyl ester			0.03	C13
Benzoic acid, 1-methylpropyl ester	esters	oxygenated compounds	0.69	0.98	Benzoic acid, 2-ethylhexyl ester			0.03	C13
Benzoic acid, pentyl ester	esters	oxygenated compounds	0.95	0.98	Benzoic acid, 2-ethylhexyl ester			0.08	C15
Hexadecanoic acid, methyl ester	esters	oxygenated compounds	0.97	0.44		18.85	AopWin	0.42	C19
1-Propene-1,2,3-tricarboxylic acid, tributyl ester	esters	oxygenated compounds	0.99					0.77	C21
n-Amyl ether	ethers	oxygenated compounds	0.90	2.15		27.52	AopWin	0.33	C11
Butyrolactone	furanones	oxygenated compounds	0.93	0.96		2.31	AopWin	0.14	C9
4-Methyl-5H-furan-2-one	furanones	oxygenated compounds	0.93					0.22	C10
2(3H)-Furanone, 5-ethyldihydro-	furanones	oxygenated compounds	0.93			5.45	AopWin v1.92	0.22	C10

2(5H)-Furanone, 5-(1-methylethyl)-	furanones	oxygenated compounds	0.66					0.33	C11	
2(3H)-Furanone, dihydro-5-propyl-	furanones	oxygenated compounds	0.66					0.33	C11	
2(3H)-Furanone, dihydro-5-pentyl-	furanones	oxygenated compounds	0.69					0.03	C13	
3-Furanmethanol	furans	oxygenated compounds	0.78					0.06	C8	
Furan, 2-pentyl-	furans	oxygenated compounds	0.84					0.22	C10	
2-N-Octylfuran	furans	oxygenated compounds	0.65					0.03	C13	
1-Octen-3-one	ketone-enes	oxygenated compounds	0.58	1.40	2-Octanone			0.05	1-Octene	
trans-3-Nonen-2-one	ketone-enes	oxygenated compounds	0.58					0.15	1-Nonene	
2-Hexanone	ketones	oxygenated compounds	0.96	3.14		9.10	Atkinson and Arey,2003	0.06	C8	Lucas B. Algrim,2016
Cyclopentanone, 2-methyl-	ketones	oxygenated compounds	0.96					0.06	C8	
2-Heptanone	ketones	oxygenated compounds	0.96	2.36		11.00	Atkinson and Arey,2003	0.14	C9	
3-Ethylcyclopentanone	ketones	oxygenated compounds	0.96	2.36	2-Heptanone			0.14	C9	
2-Octanone	ketones	oxygenated compounds	0.96	1.40		11.00	Atkinson and Arey,2003	0.22	C10	
Acetophenone	ketones	oxygenated compounds	0.96			1.88	AopWin v1.92	0.38	benzaldehyde	
Cyclopentanone,	ketones	oxygenated	0.96					0.33	C11	

3-butyl-		compounds								
1-Propanone, 1-phenyl-	ketones	oxygenated compounds	0.96					0.38	benzaldehyde	
6-Dodecanone	ketones	oxygenated compounds	0.96	1.40	2-Octanone			0.42		Lucas B. Algrim,2016
1-Hexanone, 1-phenyl-	ketones	oxygenated compounds	0.96					0.38	benzaldehyde	
2-Pentadecanone	ketones	oxygenated compounds	0.96	1.40	2-Octanone			0.20	C17	
6-(p-Tolyl)-2-methyl-2-heptenol, trans-	oxgenated-tri-isoprenes	oxygenated compounds	0.98					0.12	C16	
oxiranes-surrogate-Oxirane, decyl-	oxiranes	oxygenated compounds	0.98					0.33	C11	
oxo-aldehyde-enes	oxo-aldehyde-enes	oxygenated compounds	0.98					0.03	C13	
cis-4,5-Epoxy-(E)-2-decenal	oxo-aldehyde-enes	oxygenated compounds	0.98					0.03	C13	
cis-2,3-Epoxyoctane	oxygenated-alkanes	oxygenated compounds	0.98					0.14	C9	
3-Hydroxy-3-phenylbutan-2-one	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol	
oxygenated-aromatics	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol	
Estragole	oxygenated-aromatics	oxygenated compounds	0.96			54.26	AopWin	0.38	Phenol	
1,2-Benzenedicarboxylic acid	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol	
Benzeneacetic acid,	oxygenated	oxygenated	0.96					0.38	Phenol	

methyl ester	-aromatics	compounds							
2,6-Di-tert-butyl-4-hydroxy-4-methylcyclohexa-2,5-dien-1-one	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol
o-Hydroxybiphenyl	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol
Benzophenone	oxygenated-aromatics	oxygenated compounds	0.96			3.55	AopWin v1.92	0.38	Phenol
Xanthoxylin	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol
Ethanone, 1,2-diphenyl-	oxygenated-aromatics	oxygenated compounds	0.96			7.32	AopWin v1.92	0.38	Phenol
3,5-di-tert-Butyl-4-hydroxybenzaldehyde	oxygenated-aromatics	oxygenated compounds	0.96					0.38	Phenol
1,7-Octadien-3-ol, 2,6-dimethyl-	oxygenated-bi-isoprenes	oxygenated compounds	0.80					0.41	alpha-Pinene
oxygenated-bi-isoprenes	oxygenated-bi-isoprenes	oxygenated compounds	0.80					0.41	alpha-Pinene
8-Oxabicyclo[5.1.0]octane	oxygenated-cycloalkanes	oxygenated compounds	0.78					0.41	alpha-Pinene
Cyclohexanecarboxaldehyde	oxygenated-cycloalkanes	oxygenated compounds	0.78					0.41	alpha-Pinene
Eucalyptol	oxygenated-di-isoprenes	oxygenated compounds	0.80	5.43	Linalool			0.41	alpha-Pinene

oxygenated-di-isoprenes	oxygenated-di-isoprenes	oxygenated compounds	0.80				0.41	alpha-Pinene
Linalool	oxygenated-di-isoprenes	oxygenated compounds	0.80	5.43	119.64	AopWin	0.41	alpha-Pinene
3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-, (R)-	oxygenated-di-isoprenes	oxygenated compounds	1.00				0.41	alpha-Pinene
3-Cyclohexene-1-methanol, alpha,alpha,4-trimethyl-, propanoate	oxygenated-di-isoprenes	oxygenated compounds	1.00				0.41	alpha-Pinene
2-Cyclohexen-1-one, 3-methyl-6-(1-methylethyl)-	oxygenated-di-isoprenes	oxygenated compounds	1.00				0.41	alpha-Pinene
2,4-Pentadien-1-ol, 3-pentyl-, (2Z)-	oxygenated-di-isoprenes	oxygenated compounds	1.00				0.41	alpha-Pinene
Linalyl acetate	oxygenated-di-isoprenes	oxygenated compounds	1.00				0.41	alpha-Pinene
2H-1b,4-Ethanopentaleno[1,2-b]oxirene, hexahydro-, (1a-alpha-,1b-bta-,4-bta-,4a-alpha-,5a-alpha-)-	oxygenated-di-isoprenes	oxygenated compounds	0.65				0.41	alpha-Pinene
alpha-Terpinyl	oxygenated	oxygenated	0.65				0.41	alpha-Pinene

acetate	-di-isoprenes	compounds								
1-Penten-3-ol	oxygenated-isoprenes	oxygenated compounds	0.78					0.41	alpha-Pinene	
Phenol	phenols	oxygenated compounds	0.96	2.76		33.47	AopWin v1.92	0.38		Fang et al., 2017
p-Cresol	phenols	oxygenated compounds	0.95	2.40		41.13	AopWin v1.92	0.38	Phenol	
Phenol, 2,4-dimethyl-	phenols	oxygenated compounds	0.98	2.12		50.49	AopWin v1.92	0.38	Phenol	
2H-Pyran-2-one, tetrahydro-	pyranones	oxygenated compounds	0.66					0.22	C10	
Furan, 2-butyltetrahydro-	tetrahydro-furans	oxygenated compounds	0.78	2.13		23.56	AopWin	0.22	C10	
Naphthalene, 2-methyl-	PAHs	PAHs	0.93	3.06		48.60	Phousongphouang and Arey, 2002	0.38		Chan et al., 2009
Acenaphthylene	PAHs	PAHs	0.99	3.34	Naphthalene	75.49	AopWin v1.92	0.03		Fang et al., 2017
Anthracene	PAHs	PAHs	1.00	3.34	Naphthalene	40.00	AopWin v1.92	0.49		Gentner, 2012
Naphthalene	PAHs	PAHs	0.98	3.34		23.00	Atkinson and Arey,2003	0.26		Chan et al., 2009
Naphthalene, 1-methyl-	PAHs	PAHs	0.93	3.06		40.90	Phousongphouang and Arey, 2002	0.33		Chan et al., 2009
Phenanthrene	PAHs	PAHs	0.99	3.34	Naphthalene	13.00	AopWin v1.92	0.49		Gentner, 2012
Silane, diethoxydiphenyl-	siloxanes	siloxanes	0.97					0.10	Benzene, propyl-	
UCM3	UCMs	UCMs	0.92	0.68	C10			0.22	C10	
UCMs	UCMs	UCMs	0.90	0.61	C11			0.33	C11	
UCM6	UCMs	UCMs	0.90	0.61	C11			0.33	C11	
UCM5	UCMs	UCMs	0.99	0.55	C12			0.02	C12	
UCM1	UCMs	UCMs	0.94	0.53	C13			0.03	C13	

UCM2	UCMs	UCMs	0.94	0.53	C13	0.03	C13
UCM4	UCMs	UCMs	0.94	0.53	C13	0.03	C13
UCM7	UCMs	UCMs	0.93	0.51	C14	0.05	C14
UCM8	UCMs	UCMs	0.93	0.51	C14	0.05	C14
UCM9	UCMs	UCMs	0.93	0.51	C14	0.05	C14
2,5-Cyclohexadiene-1,4-dione, 2,6-bis(1,1-dimethylethyl)-	UCMs	UCMs	0.93			0.05	C14

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