Erratum to: Methods for characterization of organic compounds in atmospheric aerosol particles

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The authors would like to call your attention to the fact that the captions of Figures 3, 4, 5, 6, 7, 8, 9 should correctly read:

Fig. 3 Comparison of GC-MS and GC x GC-TOFMS in the characterization of rural aerosols. Spectral quality improvement of alloaromadendrene: extracted ion chromatogram and mass spectrum obtained by (a) GC-MS and (b) GC x GC-TOFMS and from (c) NIST library spectrum (reproduced, with permission, from Ref. [83])

Fig. 4 Positive-ion-mode ESI-MS stick spectrum of isoprene/O₃ SOA (panel (a)). Panel (b) zooms in on peaks near m/z 251 recorded at the Orbitrap resolving power $R=100,000$. Panel (c) shows how the same mass range would look if recorded at a typical resolving power of a reflection-TOF instrument, $R=5000$ (reproduced, with permission, from Ref. [113])

Fig. 5 TAG-GC x GC-MS system (modified after Ref. [129])

Fig. 6 Schematic of ACM instrument with three main sections consisting of aerodynamic lens and the vacuum system,

the particle-collection section, and the transfer section (reproduced, with permission, from Ref. [133])

Fig. 7 Schematic presentation of PILS-HPAEC-MS system. Arrows represent the flow of the aerosol sample and liquids within the system. *SUP*=suppressor, *CC*=conductive cell, *STD*=standard solution (reproduced, with permission, from Ref. [135])

Fig. 8 Schematic diagram of AMS systems (reproduced, with permission, from Ref. [172]).

Fig. 9 Online MS2 experiments from field samples (Hyytiälä, Finland) and from laboratory chamber studies using ozonolysis (reproduced, with permission, from Ref. [155])

After online publication of the article the authors found also the following typographical errors:

Table 2 Comparison of three GC-based methods for the analysis of alkanes and PAHs in wood-combustion nanoparticles (modified from Ref. [85])
page 5879 second column:

To minimize positive artefacts, denuders coated with an adsorbing substance, for example activated carbon or XAD, are frequently used, but they cannot, in general, be used with high-volume samplers [10–12].

For instance, nitrate volatilization has led to a negative artefact of ca. 50 % [13]...

page 5880 first column second paragraph:

Off-line sampling is typically done using size separation (PM_{10} , $PM_{2.5}$), and this is also the technique used and accepted by environmental-protection authorities [27].

Another sampling technique for collecting small particles (0.8 nm–1.1 μ m) is electrostatic precipitation [33–35].

page 5882 GC-based analysis:

If necessary, derivatization can be done by alkylation or by silylation [65–68].

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page 5883 second column:

This has been revealed to enable detection and identification of several compounds that have not been identified previously in aerosol particles [83,84].

page 5884 first column, LC-based analysis:

LC, usually combined with mass spectrometry, has been used particularly in the analysis of water-soluble organic species, including humic and fulvic acids [86-88], amines [89], organosulfate products of secondary organic aerosol (SOA) chamber studies and ambient aerosols [90,91], humic substances [92,93], carboxylic acids and high-molecular-weight dimers [94,95], oxidation products of α -pinene [96], monosaccharides [97,98], and biogenic hydrocarbons [99].

second column, second paragraph:

Different MS systems, mainly with electrospray ionization (ESI), have been used, including QqQMS [90, 100], ITPMS [90,95,96,101], and hybrid triple quadrupole-linear ion trap (QqQ-LITMS) in the tandem mass experiments, whereas TOFMS [95, 102], quadrupole-TOFMS [94,99], and direct infusion with FTICRMS [103] have been used as additional tools for accurate mass measurements and identification of compounds detected in aerosols.

page 5885, second column, last paragraph:

Direct infusion has been used both for a variety of chamber experiments [114] and in the analysis of ambient aerosol samples [112, 115-117].

page 5886, second column, last paragraph:

Comparison of in-situ and off-line analyses with TAG, using GC x GC approach, revealed that fewer compounds were visible in in-situ measurements [132].

page 5891 first column, first paragraph:

Clustering of single-particle mass spectra with the K-means algorithm enables the use of a user-defined number of clusters (K) on the basis of their spectral similarity.

second column, first paragraph:

Other in-silico fragmentation tools are also available, including Fragment Identifier (FiD) [173] and MetFrag.

second paragraph:

For example, several automated methods have also been developed for the processing of multidimensional MS data produced, e.g., by GC x GC, particularly for the identification of compounds and chemical groups [174,175].

page 5892, first column, second paragraph:

An automated procedure for the identification of individual compounds in atmospheric samples was developed by Kallio et al., and was used for the data analysis of rural aerosol samples [83].

page 5894, first column, last paragraph:

In many cases the results are more reliable, as was revealed for levoglucosan, for which the molecular fragment used for detection with AMS was not sufficiently specific and the method gave different results from the on-site analysis with PILS-HPAEC-MS [135].

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