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Retraction: Remote sensing of formaldehyde fumes in indoor environments

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Retraction of 'Remote sensing of formaldehyde fumes in indoor environments' by Gleb Zilberstein, Roman Zilberstein, Uriel Maor, Emmanuel Baskin, Shoumo Zhang and P. G. Righetti, *Anal. Methods*, 2016, DOI: 10.1039/c6ay00976j.

I, the corresponding author, hereby wholly retract this *Analytical Methods* article. Further testing has been carried out and clear evidence was found that the reported findings presented are unreliable as a result of errors made in the data analysis.

Following publication of this *Analytical Methods* article the findings were challenged. As a result further experiments were carried out on formaldehyde artworks, using the system in the article and an industry standard commercially available sensor. These more recent experiments showed that the levels of formaldehyde detected by both sensors did not exceed 0.1 ppm. This was 0.05 ppm above the measured ambient level of formaldehyde and below the limit of 2 ppm set by Control of Substances Hazardous to Health (COSHH) regulations 2002 (as amended). However, the measured values given by the sensors in close proximity to the artworks were not in agreement with the formaldehyde levels predicted by the system, as reported in the article.

Therefore, the claim in the article that the level of formaldehyde fumes reached up to 5 ppm is no longer supported and the data presented in this article should be disregarded. The cause of the original error was attributed to shortcomings in the chemical mapping calculations used, which extrapolates from the measured data points to generate a map of formaldehyde concentration in the surrounding area. As such, it is now believed that the levels of predicted formaldehyde presented in this article were over-estimated by at least 1 order of magnitude and that there was never any risk to the public.

Fig. 2–4 have also been removed from the manuscript as permission from the copyright holder was not granted.

This retraction supersedes the information provided in the Expression of Concern related to this article.

Signed: P. G. Righetti, 09 August 2016.

It should be noted that co-authors Gleb Zilberstein, Emmanuel Baskin, Uriel Maor and Roman Zilberstein do not agree to this retraction and the following author was contacted but did not respond: Shoumo Zhang.

Retraction endorsed by Philippa Hughes, Executive Editor, *Analytical Methods*.

