Lab on a Chip

CORRECTION

Cite this: *Lab Chip*, 2025, **25**, 4814

Correction: Utilizing layer-parameter of shear horizontal surface acoustic wave biosensor for lipoprotein particle sizing

Chia-Hsuan Cheng, [ab] Hiromi Yatsuda [a] and Jun Kondoh *[a]

DOI: 10.1039/d5lc90088c

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Correction for 'Utilizing layer-parameter of shear horizontal surface acoustic wave biosensor for lipoprotein particle sizing' by Chia-Hsuan Cheng *et al.*, *Lab Chip*, 2025, https://doi.org/10.1039/d5lc00444f.

In the above paper, the authors acknowledge similarity in the description of the fractional change in amplitude and velocity with that in another of their recently published papers (https://doi.org/10.1021/acs.analchem.5c01881). The authors would like to acknowledge the contribution made by their collaborator H.-C. Chang, who noted that the SH-SAW sensor's fractional change in amplitude and velocity both scale linearly with respect to the volume fraction ϕ of the particle monolayer and thus this surface particle concentration dependence can be scaled out to isolate the size effect. This is important since both bulk and surface particle fraction can vary even within samples from the same patient; estimating particle size (R) requires removing this concentration dependence. It was previously shown by the authors that the phase (fractional velocity change) signal is mainly influenced by the density change at the surface.[18] Since this density change $\Delta\rho$ is due to the monolayer of particles, its fractional change $\Delta\rho/\rho$ scales linearly with particle size (monolayer thickness) and the particle volume fraction of the monolayer $\Delta\rho/\rho \sim R\phi$. The phase signal (fractional change in velocity) should hence scale in the same manner. In contrast, the fractional amplitude attenuation is dominated by viscous dissipation, which relates to the surface area increase caused by the particles in the monolayer and scales as $R^2\phi$. Although both signals scale with ϕ, their different dependencies on R mean that their ratio becomes independent of concentration and linearly related to particle size.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

[a] *Graduate School of Science and Technology, Shizuoka University, Hamamatsu 432-8561, Japan. E-mail: kondoh.jun@shizuoka.ac.jp*
[b] *tst Biomedical Electronics Co., Ltd., Taoyuan 324403, Taiwan*