Check for updates

scientific reports

Published online: 27 October 2021

OPEN Author Correction: Pore-scale effects during the transition from capillary to viscosity-dominated flow dynamics within microfluidic porous-like domains

A. Yiotis, N. K. Karadimitriou, I. Zarikos & H. Steeb

Correction to: Scientific Reports https://doi.org/10.1038/s41598-021-83065-8, published online 16 February 2021

The original version of this Article contained errors.

In the Materials and Methods section under the subheading 'Experimental microfluidic setup',

"As shown in Figure 1a, the micromodel consists of a central rectangular area 6 mm long and 4 mm wide and two flow channels (inlet and outlet) both 13 mm long and 500 μm wide."

now reads:

"As shown in Fig. 1 (top), the micromodel consists of a central rectangular area 6 mm long and 4 mm wide and two flow channels (inlet and outlet) both 13 mm long and 500 μm wide."

"The entire micromodel is 115 μ m deep and the rectangular central area contains 76 non-overlapping cylindrical pillars (that appear as circles in Figure 1b with diameters selected from a random size distribution in the range of 275 and 575 µm (average diameter of 380 µm), as shown in Fig. 1c."

now reads:

"The entire micromodel is $115 \, \mu m$ deep and the rectangular central area contains 76 non-overlapping cylindrical pillars (that appear as circles in Fig. 1 (left) with diameters selected from a random size distribution in the range of 275 and 575 µm (average diameter of 380 µm), as shown in Fig. 1 (right)."

Additionally, in the Materials and Methods section under the subheading 'Immiscible flow in a single capillary at low Ca values,

$$\frac{Ca_w}{\xi} \ll 1 \ then \frac{\Delta P(S_w)}{\Delta P_c} = 4 \frac{Ca_w}{\xi} \left(\frac{\mu_o - \mu_o}{\mu_o} S_w + \frac{\mu_o}{\mu_o} \right)$$

now reads:

$$\frac{Ca_w}{\xi} \gg 1 \ then \frac{\Delta P(S_w)}{\Delta P_c} = 4 \frac{Ca_w}{\xi} \left(\frac{\mu_o - \mu_o}{\mu_o} S_w + \frac{\mu_o}{\mu_o} \right)$$

The original Article has been corrected.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

© The Author(s) 2021