Publisher Correction

Unified framework for laser-induced transient bubble dynamics within microchannels(Scientific Reports, 10.1038/s41598-024-68971-x)

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In the original version of this Article a previous rendition of Figure 2B, Figure 4 and Figure 5D was published. The original Figure 2, 4 and 5 and accompanying legends appear below.

The original Article has been corrected.

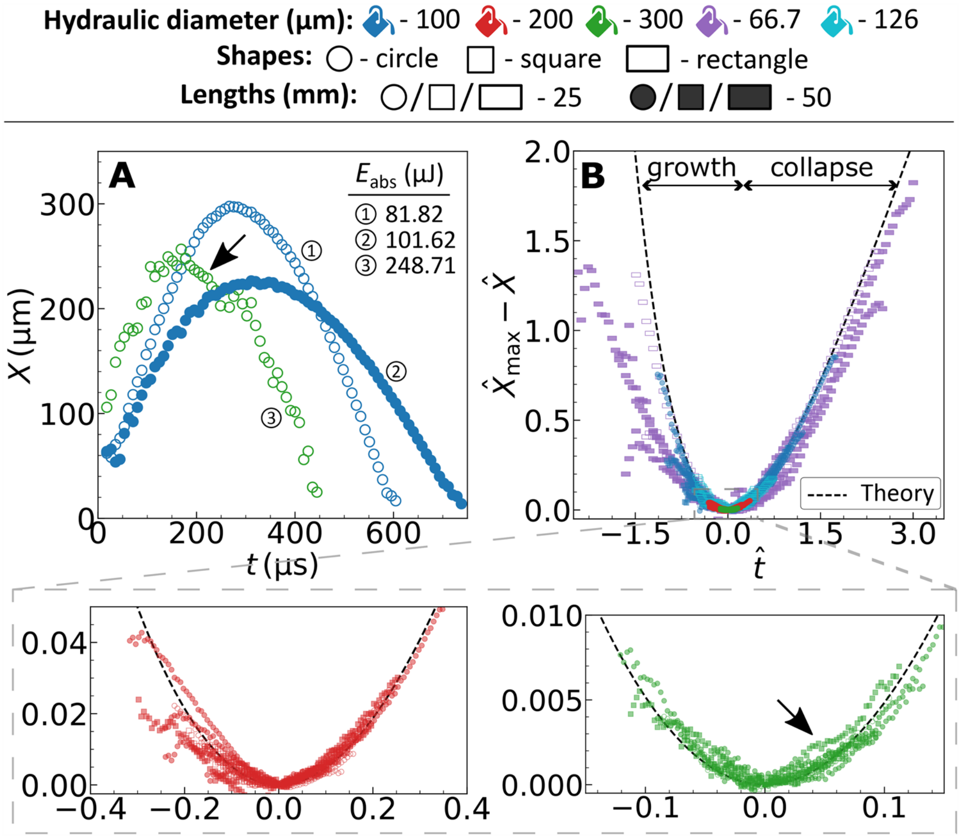

Figure 2. (**A**) Representative bubble dynamics for different channel geometries. (**B**) Universal motion of bubbles within channels with different size, shape and length. The dashed line represents the developed theory, Eq. (2). The marker colors represent the hydraulic diameters (d_h), the shapes represent the cross-section and the facecolor represent the lengths (L). The graphical marker symbols and colors established here are followed throughout this article. The black arrow represents the region of deviation(s) from the expected dynamics.

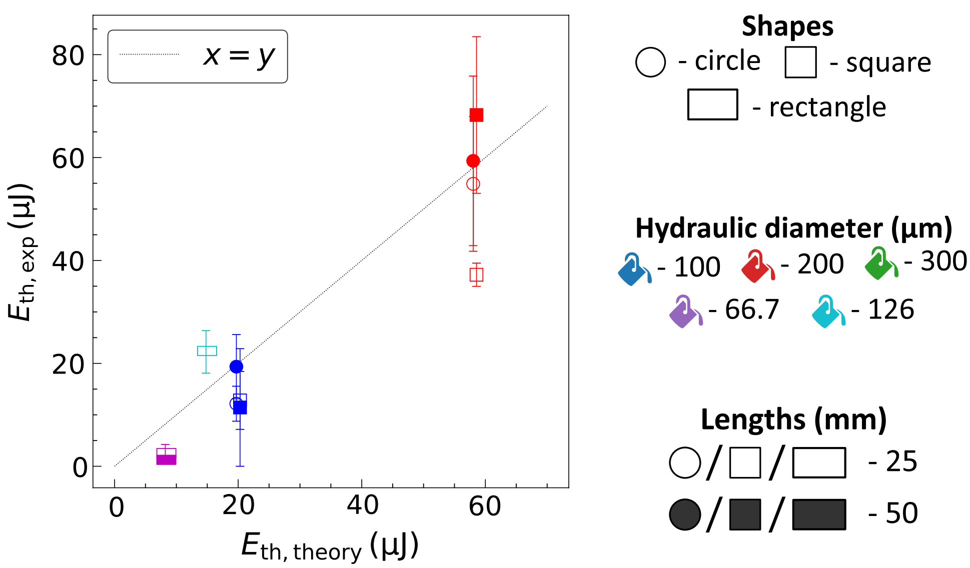

Figure 4. The threshold laser energy absorbed for bubble formation estimated from experiments ($E_{th,exp}$) against theory ($E_{th,theory}$) presented in Eq. (5).

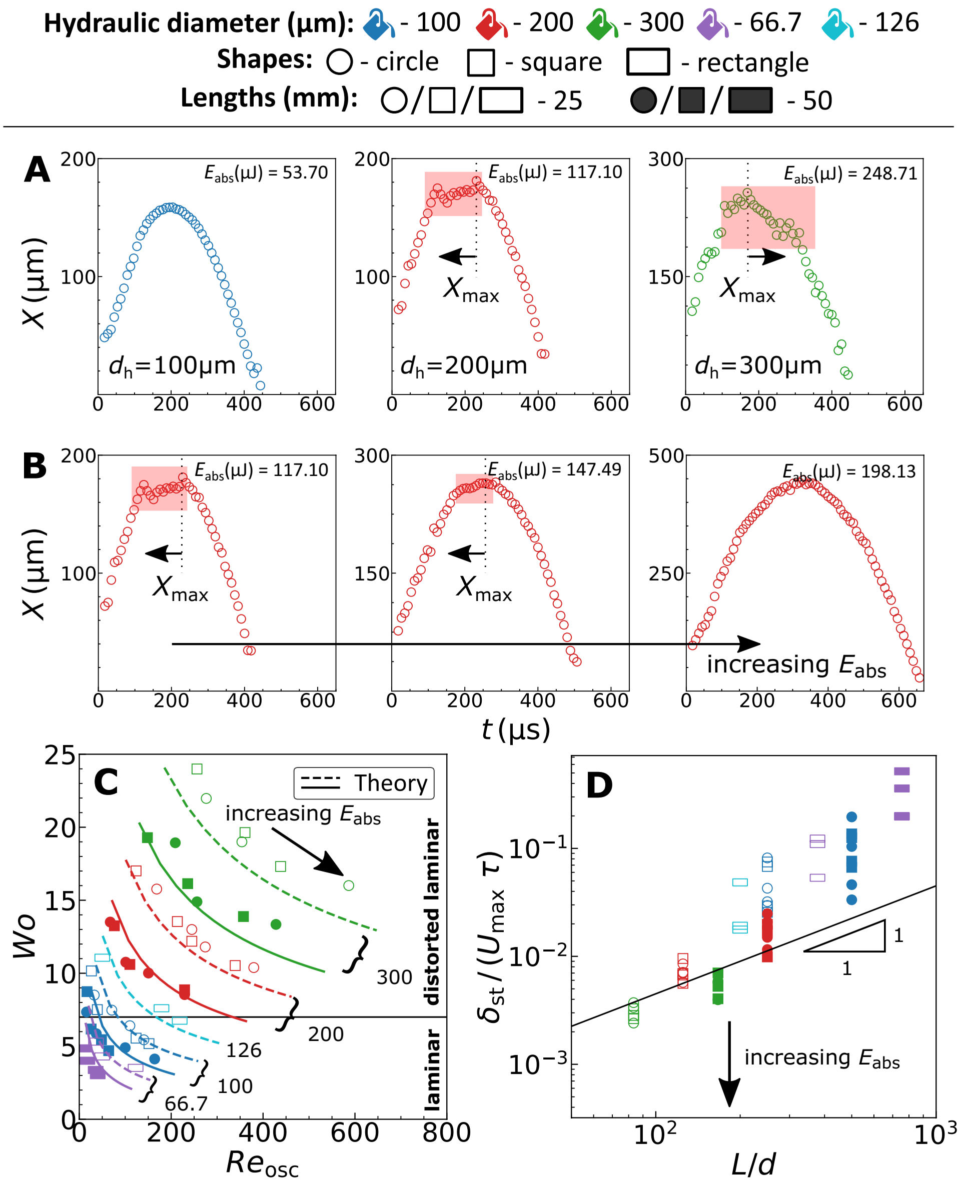

Figure 5. (**A,B**) Representative dynamic bubble size curves illustrating the emergence of instabilities. The zones of the instabilities are highlighted using a shaded rectangular area. The arrows represent if the instabilities occur before or after X_{max}. (**A**) Illustrates the experimental data for different d_h with similar oscillation time. The instabilities emerge with increasing d_h. (**B**) Illustrates the data for $d_h = 200$ μm with increasing laser energies. The instabilities disappear with increasing E_{abs}. (**C**) Flow stability diagram with the transition line at $W_o = 734$. The markers represent the experiments and the lines represent the analytical estimate. The numbers correspond to the channel hydraulic diameters (in μm) with the dashed and solid lines representing the channel lengths L = 25 and 50 mm, respectively. (**D**) The dimensionless convective timescale against the L/d_h aspect ratio. The partition line is a linear relation between the x and y axes with 45×10^{-6} as the slope and the origin as the intercept.