Journal Name

ARTICLE TYPE

Cite this: DOI: 00.0000/xxxxxxxxxx

Supporting Information for *Microfluidic dialysis using photo-patterned hydrogel membranes in PDMS chips*

Hoang-Thanh Nguyen[a], Morgan Massino[a], Camille Keita[a], and Jean-Baptiste Salmon*[a]

Received Date
Accepted Date

DOI: 00.0000/xxxxxxxxxx

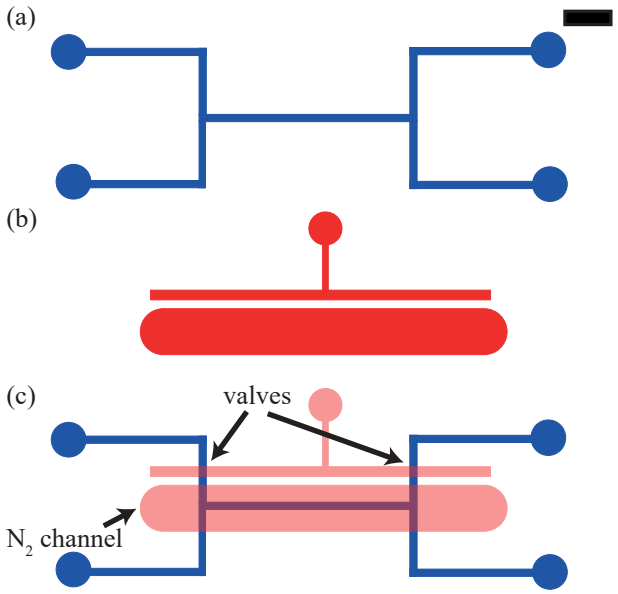

Fig. S1 (a) Mask used for the fluidic channels of the chip shown in Fig. 4 (first layer). (b) Corresponding mask of the second layer containing the actuation channels and a large central channel for the flow of nitrogen gas. (c) Superposition of the two layers. Scale bar 2 mm.

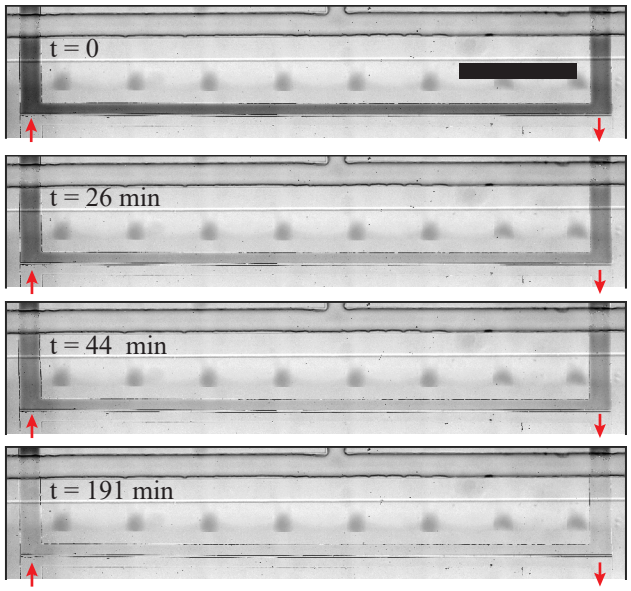

Fig. S2 Extended views of the dialysis chip of Fig. 4 of the main text. Images have been contrasted to highlight the transport of the dye (brillant blue FCF, $M_w \simeq 790$ g/mol) from the sample channel to the reservoir one. The blurred spots aligned above the sample channel are caused by a dust in the optical path. Red arrows indicate the continuous flow in the reservoir channel. Scale bar 2 mm.

[a] *CNRS, Solvay, LOF, UMR 5258, Univ. Bordeaux, F-33600 Pessac, France. E-mail: jean-baptiste.salmon-exterieur@solvay.com*

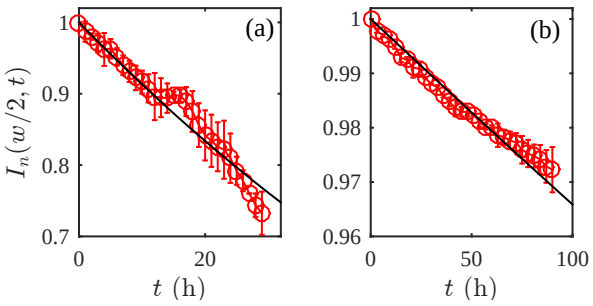

Fig. S3 Normalized fluorescence intensity $I_n(w/2,t)$ vs. t for FD4 (a) and FD10 (b). Errorbars are calculated from the standard deviation of 2 experiments. The black lines are fits by an exponential decrease with the time scales $\tau_s = 110$ h in (a), and $\tau_s = 120$ days in (b).

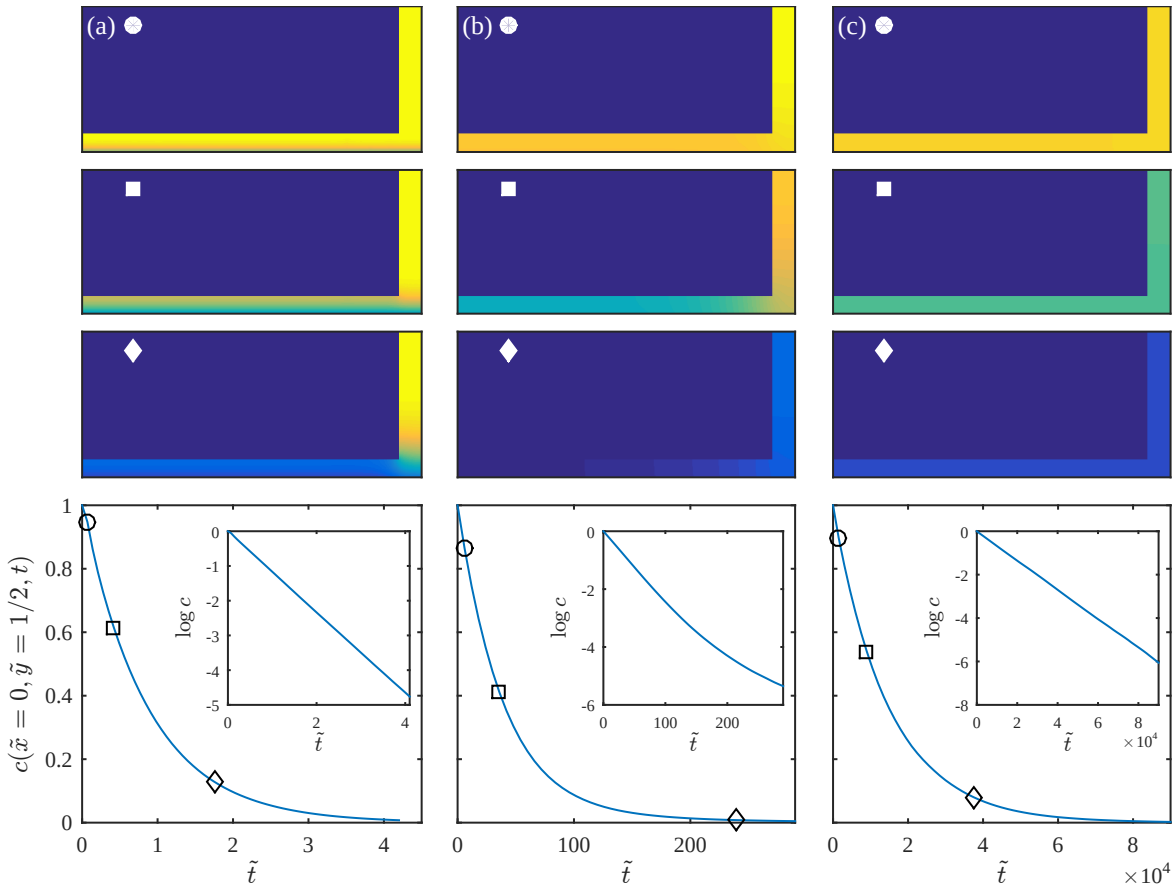

Fig. S4 Top: 2D maps of the concentration field from the numerical resolution of eqn (5)-(7) at different time scales $\tilde{t}$ and for various $\Re_m/\Re_w$. Only half of the computing domain is shown, see Fig. 7a in the main text. (a) $\Re_m/\Re_w = 0.5$, (b) $\Re_m/\Re_w = 40$, (c) $\Re_m/\Re_w = 10^4$, the range of the color map is scaled between 0 and 1 in each plot. Bottom: temporal evolutions of the concentration c in the middle of the chamber, $\tilde{x} = 1/2$ and $\tilde{y} = 0$. The symbols correspond to the times of the different 2D maps. The insets evidence exponential decreases.