

Supplementary Information

Improving sensitivity of gold nanoparticles-based lateral flow assays by using wax-printed pillars as delay barriers of microfluidics

Lourdes Rivas^{a,b}, Mariana Medina-Sánchez^a, Alfredo de la Escosura-Muñiz^a and Arben

Merkoçi^{*a,c}

^aICN2 – Nanobioelectronics & Biosensors Group, Institut Catala de Nanociencia i Nanotecnologia, Campus UAB, 08193 Bellaterra (Barcelona), Spain

^bDepartament de Química, Universitat Autònoma de Barcelona, 08193, Bellaterra (Barcelona), Spain

^cICREA – Institutio Catalana de Recerca i Estudis Avançats, 08010 Barcelona, Spain

*Corresponding author: arben.merkoci@icn.cat Tel: +34937374604

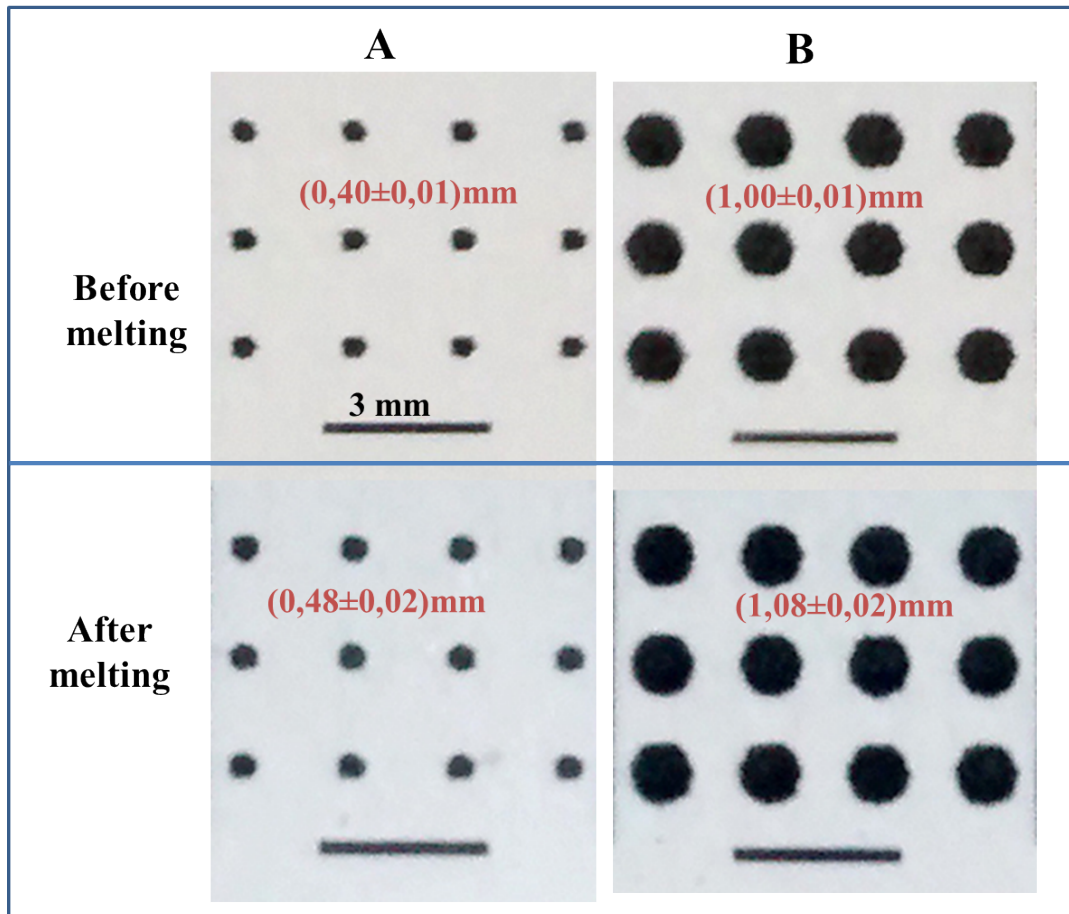


Figure S1. Wax printed pillars of (A) 0.4 and (B) 1.0 mm, before and after melting process.

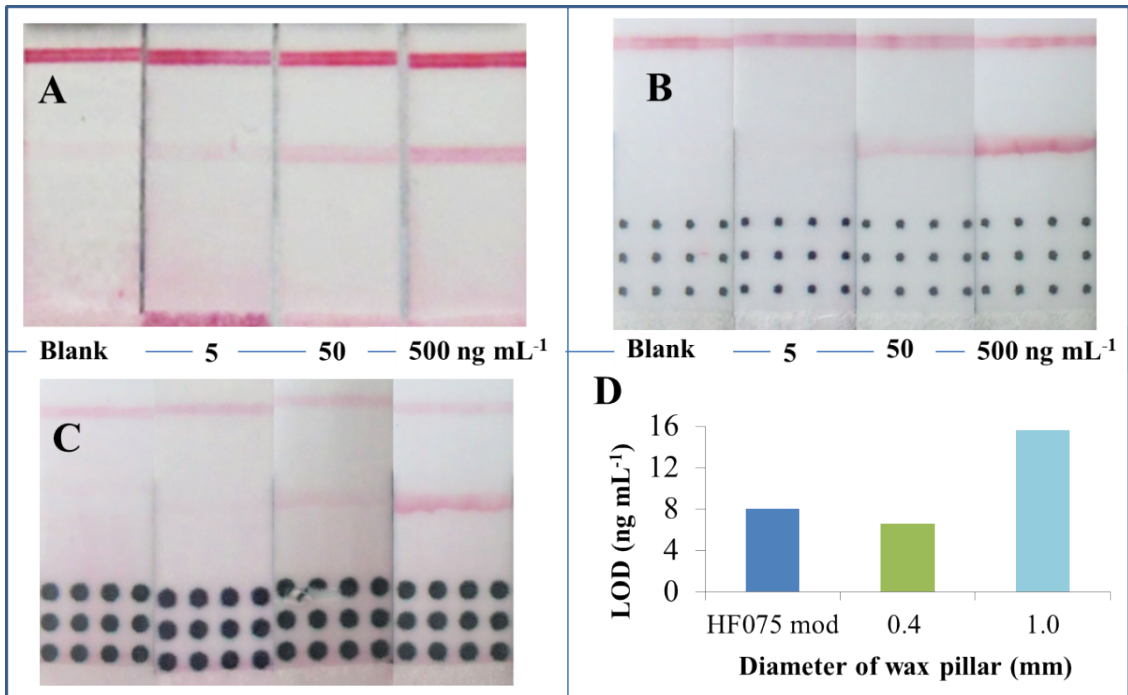


Figure S2. LF strips with heat and pressure modifications, HF075 mod (A); LF strips modified with different wax pillars diameters: 0.4 mm (B) and 1.0 mm (C). Effects on sensitivity of wax pillars diameters in LF quantitative measurement of H1gG (D).

Table S1. Limit of detection and relative standard deviation using unmodified and modified LFA with wax pillars

Lateral Flow Assays	Limit of detection (ng mL⁻¹)	Relative Standard Deviation (RSD) for 100 ng mL⁻¹
Unmodified HF075	12.4	7.5
Modified HF075	7.6	4.0
Unmodified HF240	8.0	6.8
P1	5.6	2.3
P2a	4.5	2.2
P2b	4.7	3.3