Electronic Supplementary Material (ESI) for Soft Matter.

Supplemental Information for "Dynamics of individual inkjet printed picoliter droplet elucidated by high speed Laser Speckle Imaging"

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February 2024

Sample code	% water	% pigment	% latex	% glycerol	% surfactant
A	82	5	12	1	-
B	66	5	12	17	-
C	80	5	12	1	2

Table S1: Inks composition

Sample code	pH-value	density (g/ml)	viscosity (mPa·s)	latex T_g (°C)	ST@2s (mN/m)
A	8.2	1.0335	2.4	55	47
B	8.2	0.0697	4.1	55	54
C	8.2	1.0338	3.2	25	28

Table S2: Inks physical properties. For each ink we used we present pH value, density, viscosity and surface tension (ST) at 2 seconds after deposition

Sample code	teflon	Sappi Magno	Teslin	Mylar	Glass
A	94	62	103	65	30
B	95	60	103	70	30
C	45	30	48	25	10
water	94	70	120	70	30

Table S3: Contact angle, in degrees, of millimeter ink droplets deposited on different substrates.

Sample code	Teflon	Sappi Magno	Teslin	Mylar	Glass
A	0.0069±0.0009	0.0153±0.0027	0.0229±0.0050	0.0090±0.0022	0.0174±0.0025
B	0.0065±0.0011	0.0243±0.0238	0.0112±0.0031	0.0116±0.0024	0.0223±0.0027
C	0.0082±0.0019	0.0181 ±0.0045	0.0224±0.0029	0.0133±0.0023	0.0261±0.0044

Table S4: Activation area of picoliter size droplets (mm^2).

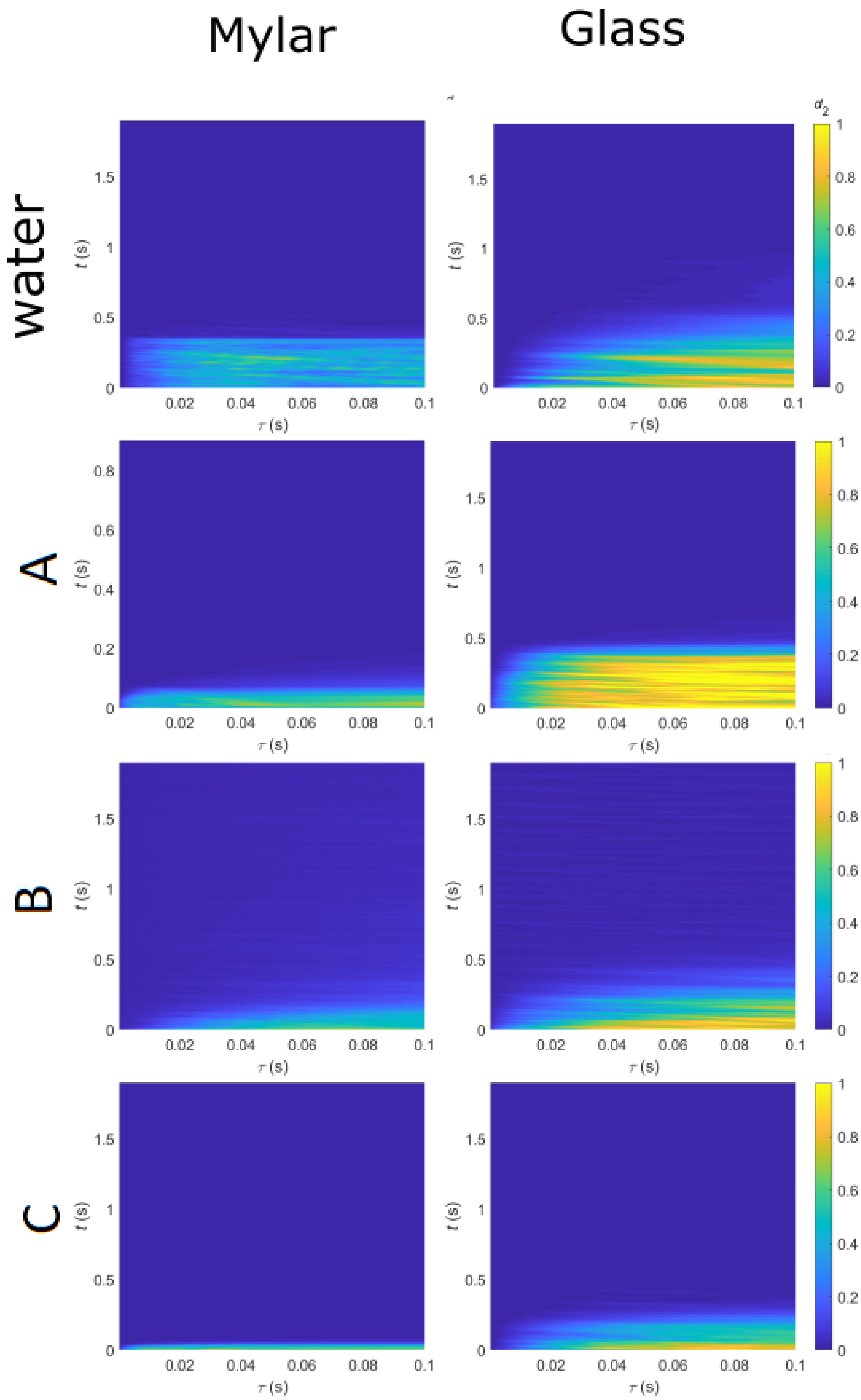

Figure S1: d_2 kymograph for water and inks A, B, C on the remaining substrates, namely Mylar and glass frits. We note that water on Mylar behaves similarly for what is presented in the case of Teflon substrates, since this substrate does not imbibe. The recorded movement for water printed on Glass frits is due to the change, creation and destruction, of air water interfaces within the material. For the same substrate, ink A shows enhance mobility, but with similar timescales to water. Probably for glass substrates, also the surface topology and properties can alter mobility. Ink C shows faster drying for Mylar, than glass. For the ink B, we have similar interpretation as for the inks presented in the main text.