

Electronic Supplementary Information

Polarization mechanisms of dielectric materials at a binary liquid interface: impact on electrowetting actuation.

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ESI1: detailed calculations of surface charge density for bare parylene based on experiments on two thicknesses:

Parylene coating		
Thickness (μm)	2.5	7
d _{eq} (μm) with ε _r =3.1	2.5	7
Cs (mF/m ²)	0.0106593	0.00387839
1/Cs	93.8148177	257.838875
V' (Volts)	-7	-13
V ₀ (Volts)	67	93
θ ₀ (deg)	42	39
$\sigma_s = \frac{\varepsilon_1 \varepsilon_0 V'}{d_{eq}}$ (mC/m ²)	-7.68E-02	-5.10E-02
Average value	σ=-0.064±0.013 mC/m ²	