Electronic Supplementary Material (ESI) for RSC Advances.
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Supplementary Material

Gold Nanochannels Oxidation by Confined Water

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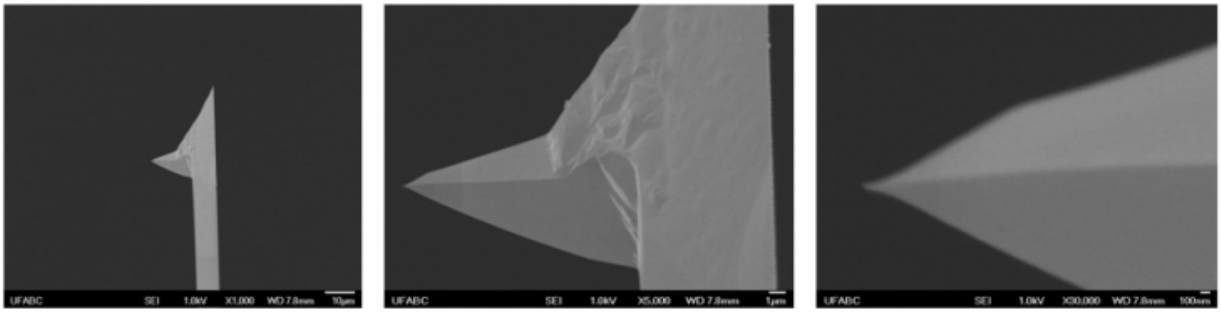
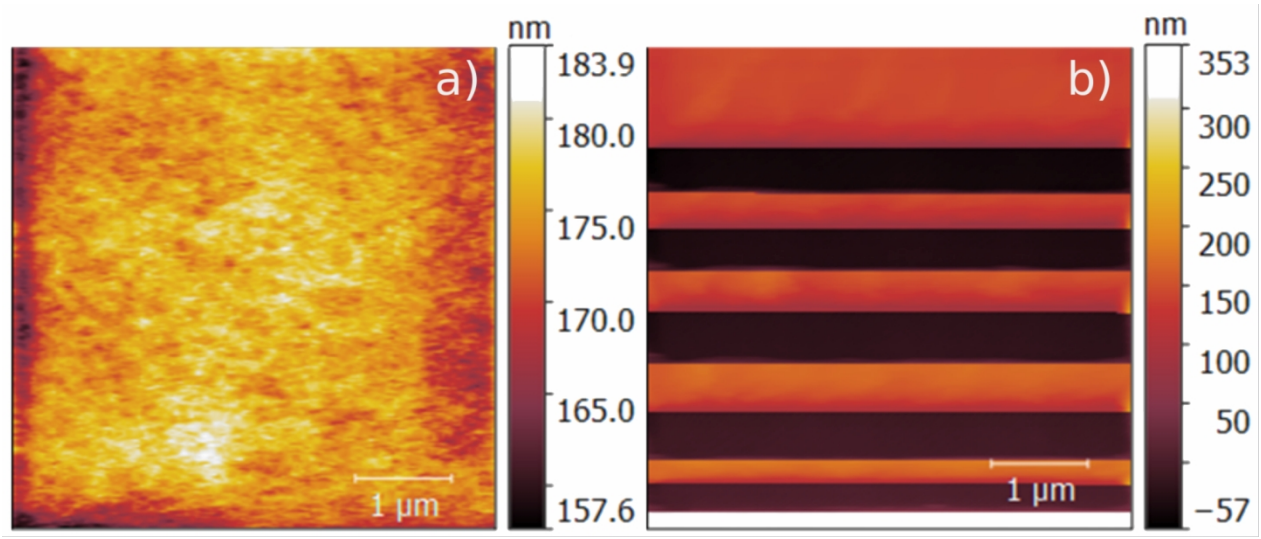
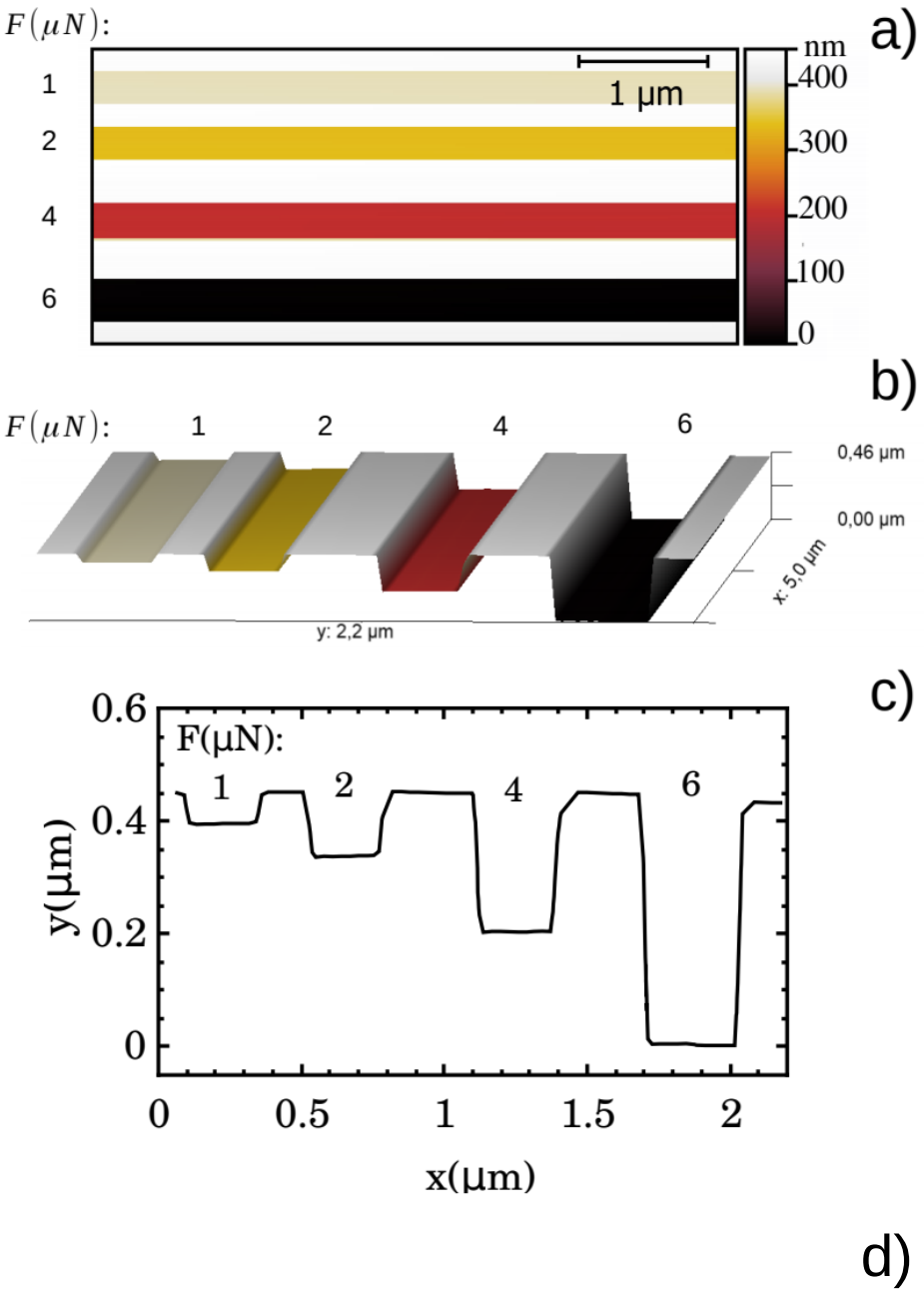


S1. AFM DLC tips SEM image.



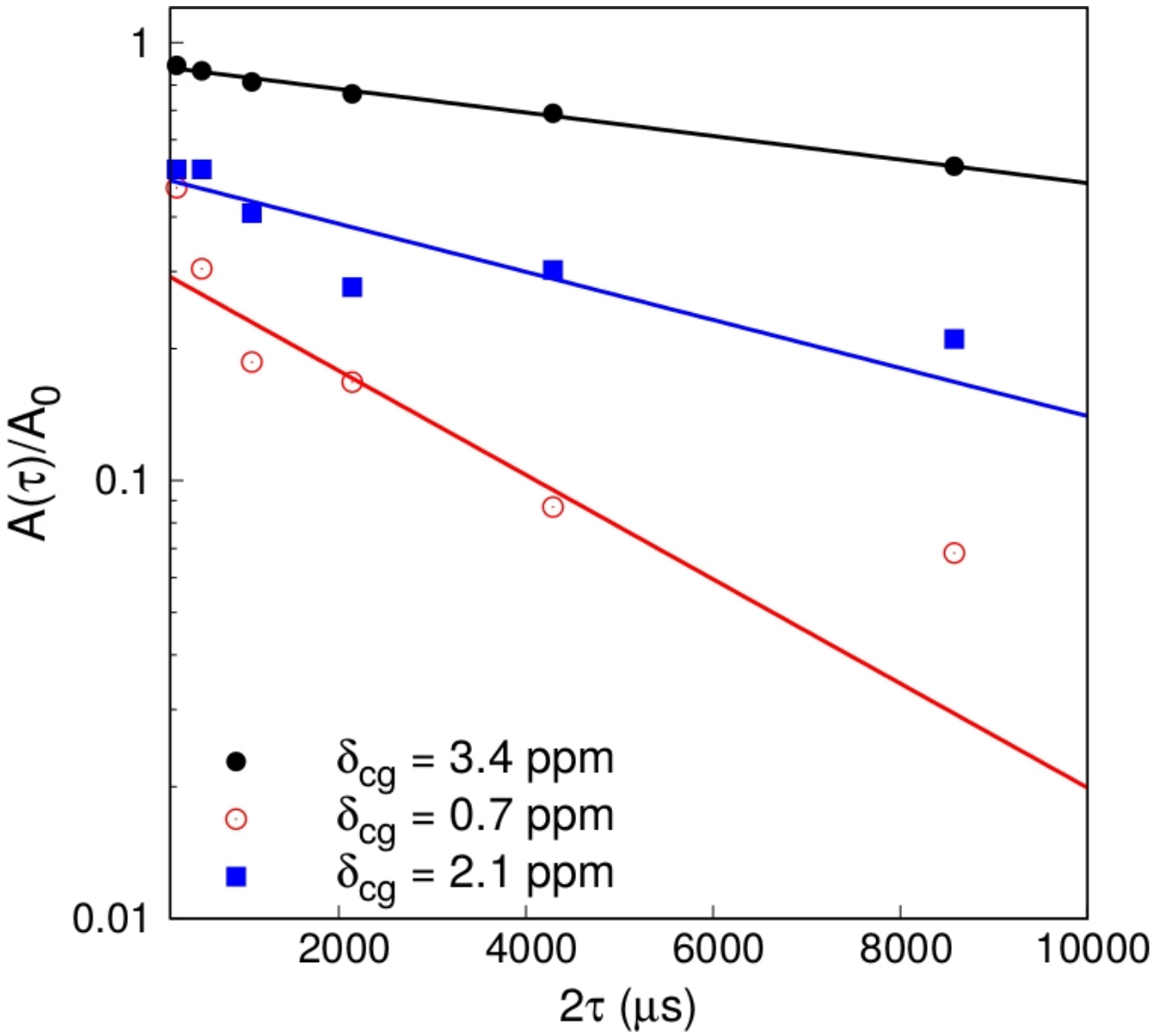
S2. AFM images for 600 nm Au layer sample taken before (a) and after (b) nanolithography.



S3. Nanochannels in pseudo-color (a), 3D (b), profile plot (c) for applied forces of 1, 2, 4, and 6 μN.

NMR Data Analysis

We first deconvoluted the probe background as a Lorenztian/Gaussian distribution and included this curve with fixed parameters in the deconvolution of the spectra of the sample. Then, we deconvoluted the spectrum taken with $\tau = 4.288$ ms with additional three Gaussian/Lorentzian distributions. There are two defined peaks, at 3.4 and 2.1 ppm, while the addition of a broad peak around 0.7 was sufficient to fairly describe the spectrum. Subsequently, the other spectra are simulated as a convolution of these four distributions.



S4. Spectral intensity as a function of echo evolution time (2τ) for the deconvoluted peaks and single-exponential decay fits (lines).

Table S1. Parameters of the distributions used in the deconvolution of the spin-echo ^{1}H spectra.

δ(ppm)	Δδ(ppm)[a]	X(G,L)[b]
0.7	5.4	1
2.1	0.9	1
3.4	1.2	0.7
2.5[c]	5.4	1

a) Δδ(ppm) is the full widht at half maximum of the distribution. b) X(G, L) means the ratio between Gaussian (X) and Lorentzian (1 − X) in the curve; i.e., X = 0 stands for a full Lorentzian distribution and X = 1 for a full Gaussian distribution. c) This peaks comes from the probe background.