

Supplementary Information

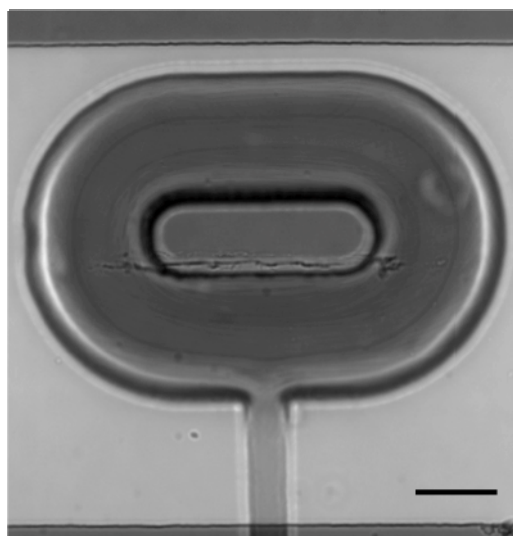


Figure S1: Overlay of fluorescence and brightfield optical image. After the nanowire bundle was fixed in the 150 μm cage, a fluorescein solution was flushed into the channel. The nanowires are perfectly isolated from the main fluid flow, no fluorescein is inside the donut trap. Scale bar: 50 μm

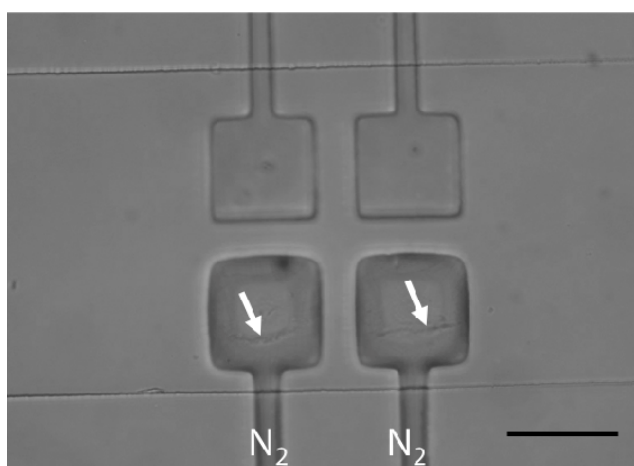


Figure S2: Trapping of nanowires under deflected membranes. Both bottom rectangles (lateral length: 100 μm) are deflected by 3 bar of nitrogen. A metal-organic nanofiber bundle was guided under those rectangles before the deflection and was trapped after application of pressure. Scale bar: 100 μm

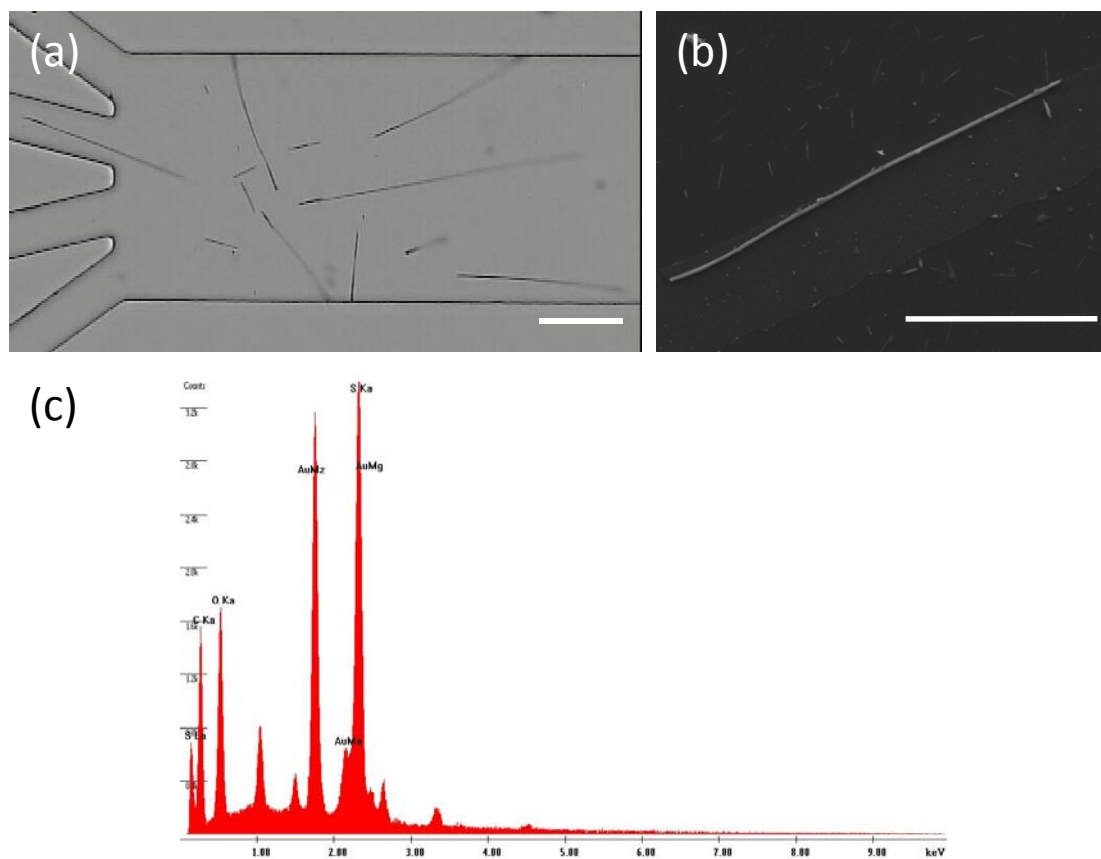


Figure S3: (a) Optical microscope image of TTF-Au hybrid wires formed inside a chip by diffusion. (b) SEM image of a TTF-Au wire synthesised by diffusion on a non-bonded chip. In this case the wire is $\approx 1 \mu\text{m}$ wide and $\approx 90 \mu\text{m}$ long. (c) Energy-dispersive X-ray (EDX) spectrum of a TTF-Au wire produced by diffusion. The spectrum clearly indicates the presence of S and Au in the TTF-Au hybrid wire. Scale bars (a: $100 \mu\text{m}$ and b: $40 \mu\text{m}$)

[S4: Movie](#)