

Electronic Supplementary Information (ESI) for Analyst

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## Electronic Supplementary Information

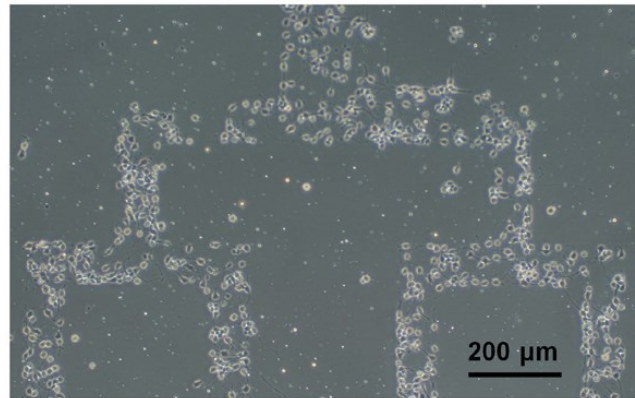
Straightforward neuron micropatterning and neuronal network construction on cell-repellent polydimethylsiloxane using microfluidics-guided functionalized Pluronic modification

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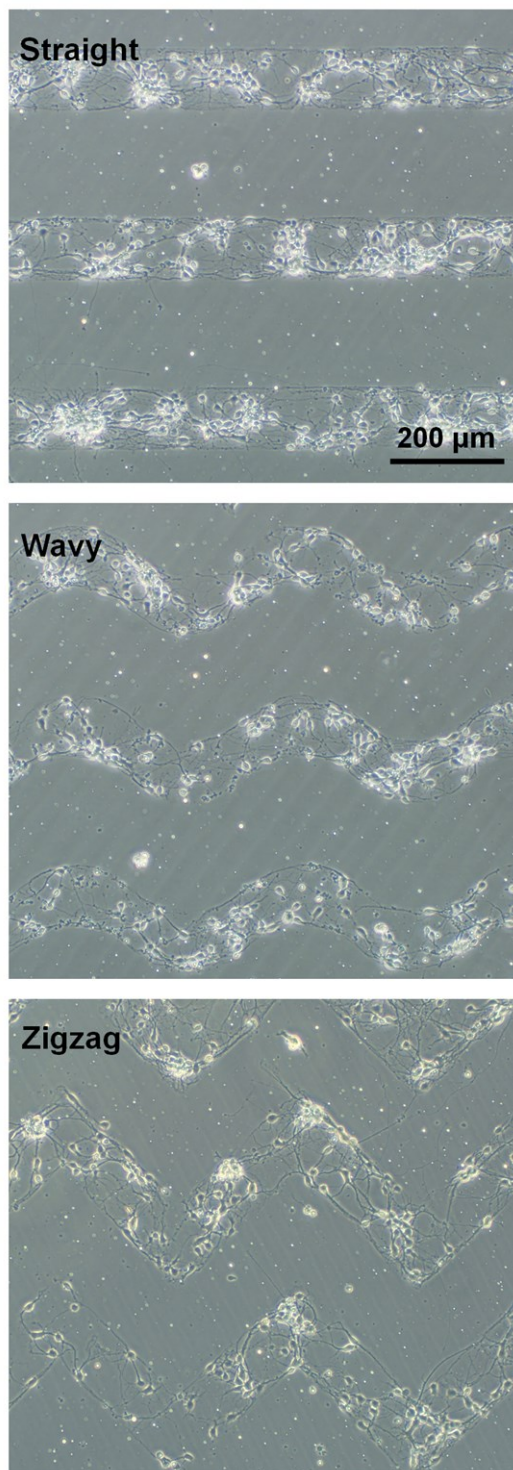
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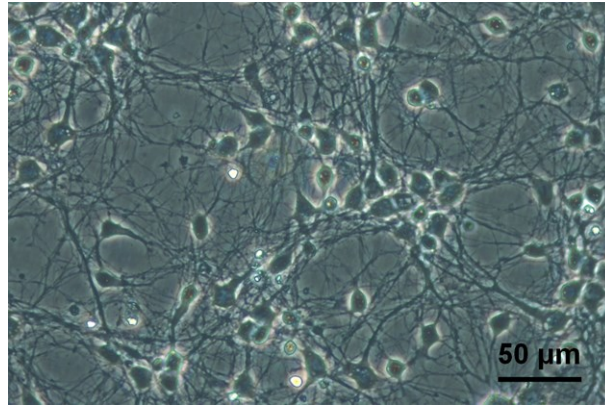
**Abstract.** This supplementary information provides all the additional information as mentioned in the text.



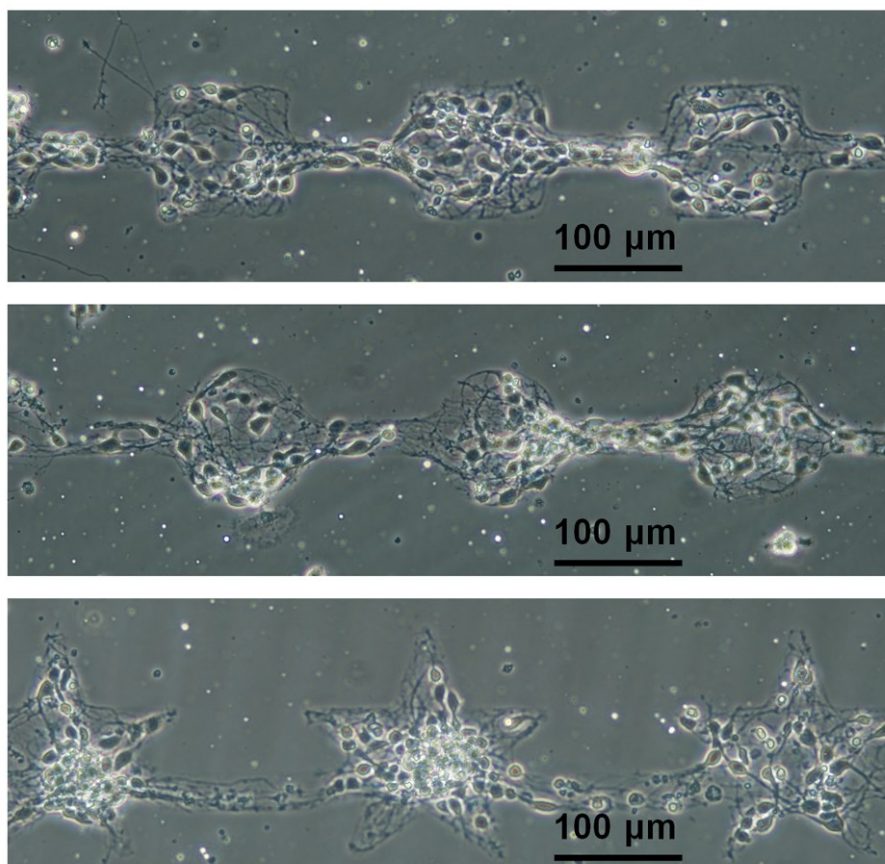
**Fig. S1** Neuronal cell distribution after 1 d in culture on the modified PDMS substrate by F127-PDL using microfluidics.



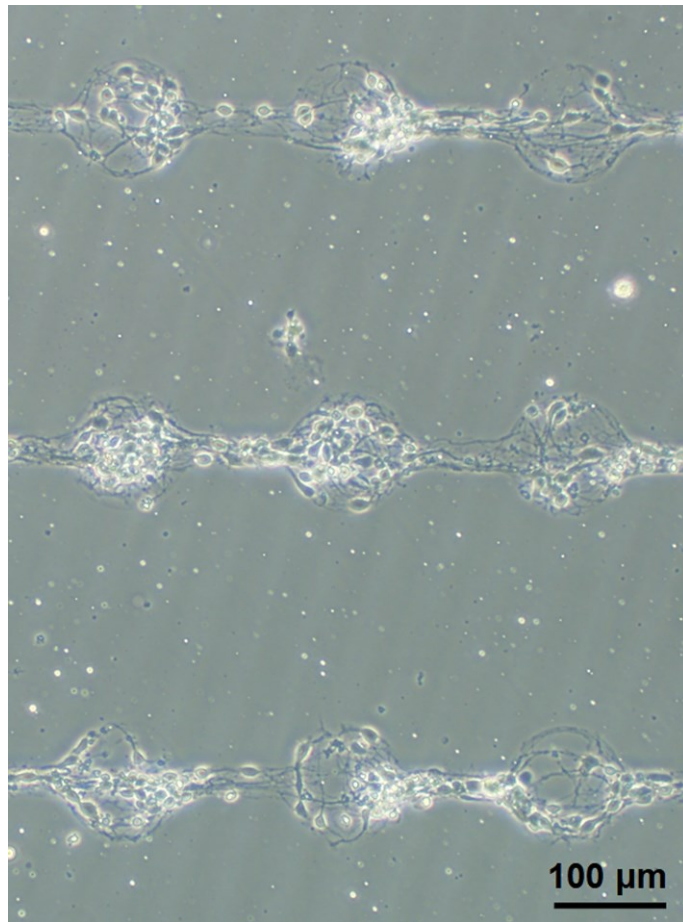
**Fig. S2** Optical images of 5 d neuronal cultures on the modified PDMS surface by microfluidic F127-PDL deposition with respective straight (top), wavy (middle), and zigzag (bottom) stripe geometry.



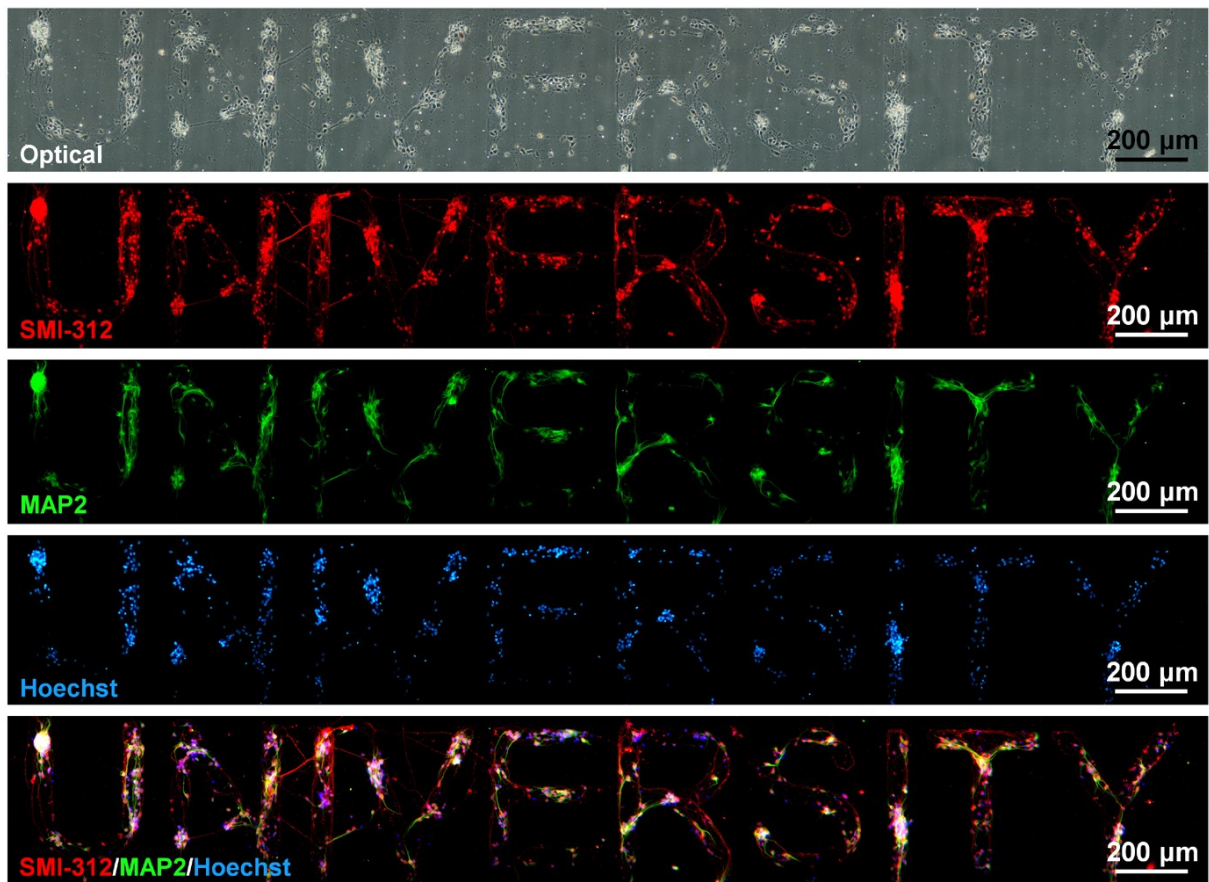
**Fig. S3** Optical image of 5 d standard neuronal cultures on the PDL-modified PS surface.



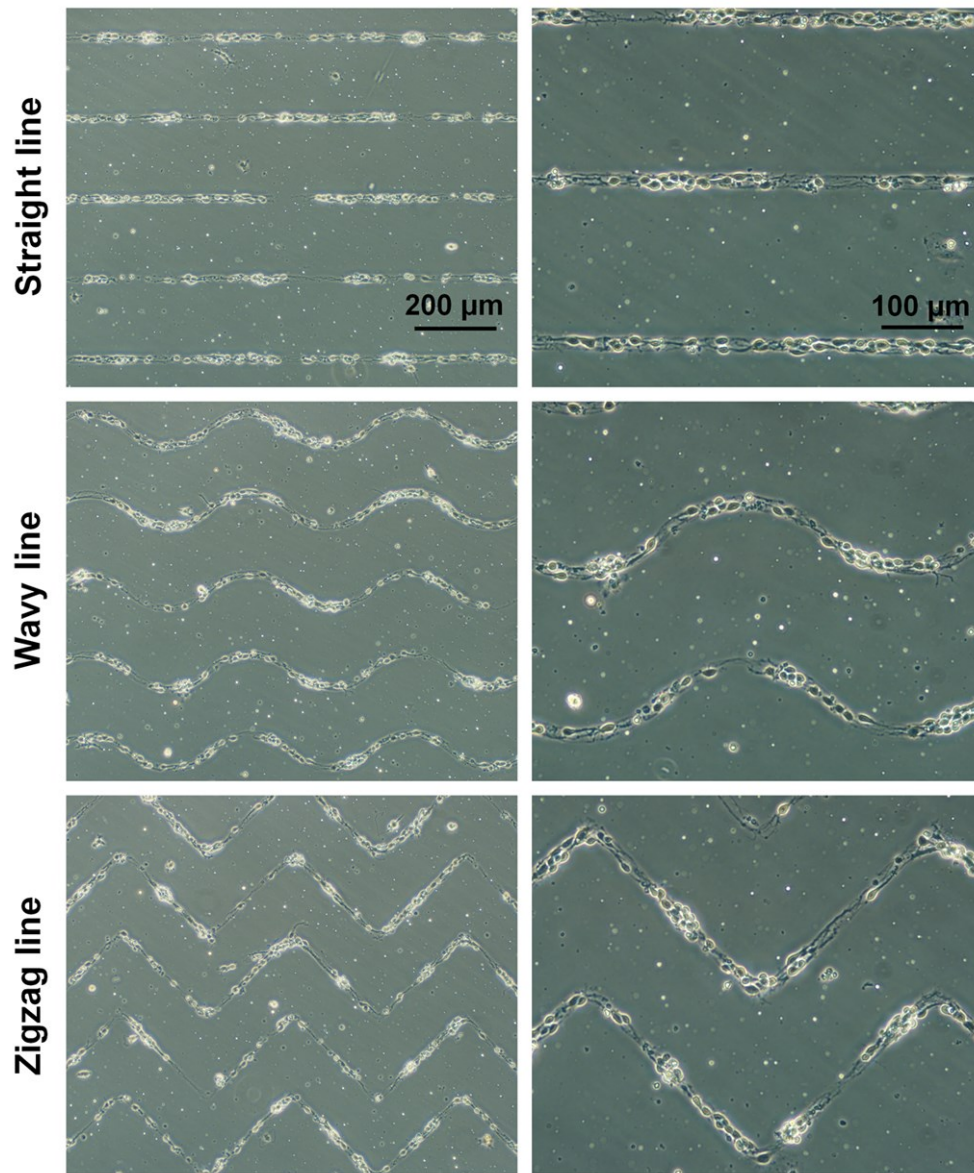
**Fig. S4** Optical images of 5 d neuronal cultures on the modified PDMS surface by microfluidic F127-PDL deposition with respective square (top), circular (middle), and pentagonal (bottom) geometry.



**Fig. S5** Optical images of 5 d neuronal cultures on the modified PDMS surface by microfluidic F127-PDL deposition with circular geometry.

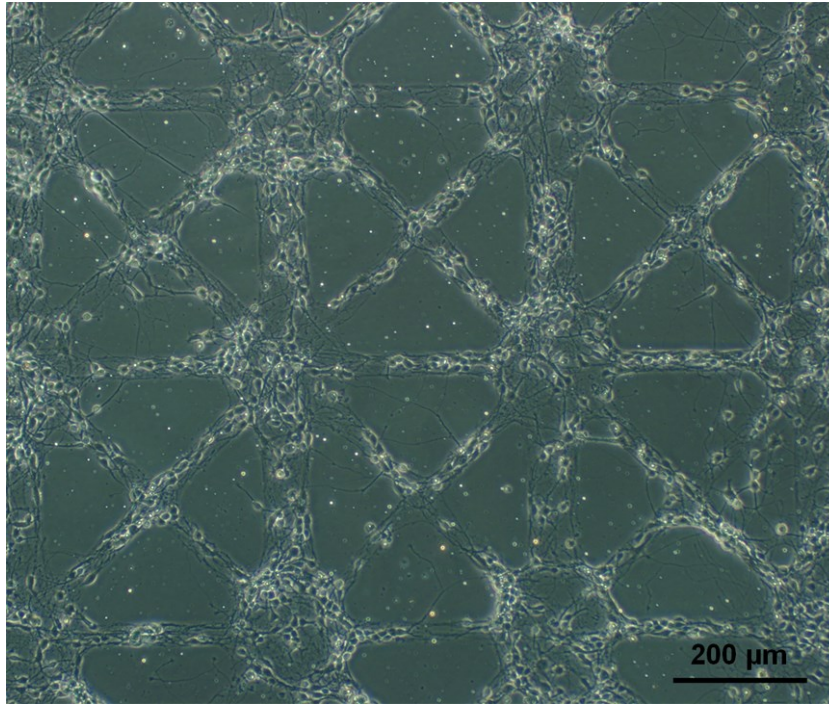


**Fig. S6** Optical and fluorescent images of 5 d neuronal cultures on the modified PDMS surface by microfluidic F127-PDL deposition with a word (university)-like geometry. Immunocytochemical staining was performed for neuronal visualization (axon: SMI-312; somatodendrite: MAP2; nucleus: Hoechst 33258).



**Fig. S7** Optical images of 5 d neuronal cultures on the modified PDMS surface by microfluidic F127-PDL deposition with respective straight (top), wavy (middle), and zigzag (bottom) line geometry.





**Fig. S8** Optical image of neuronal network after 7 d in culture on the modified PDMS surface by microfluidic F127-PDL deposition with interconnected spot array shape.