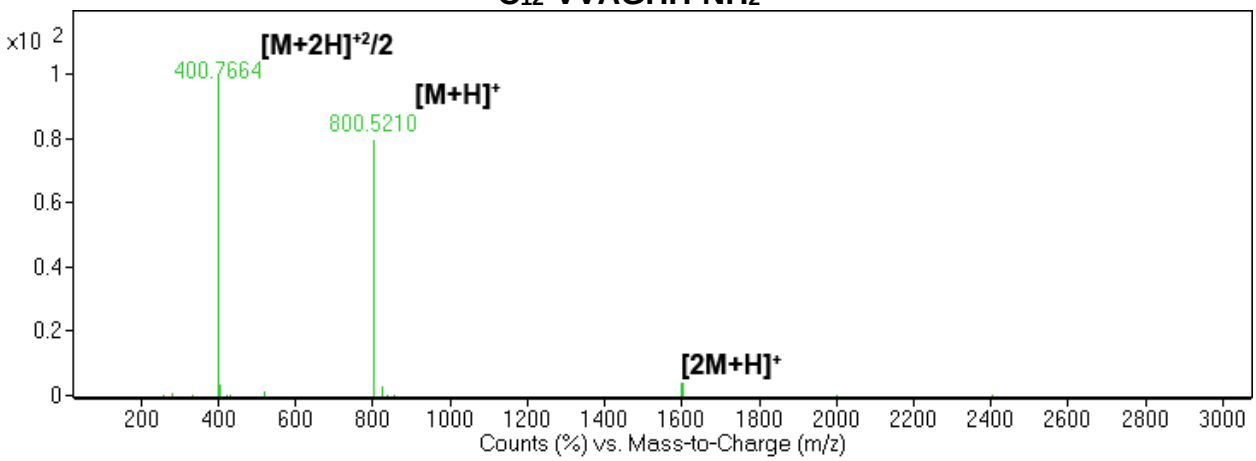
micromachines

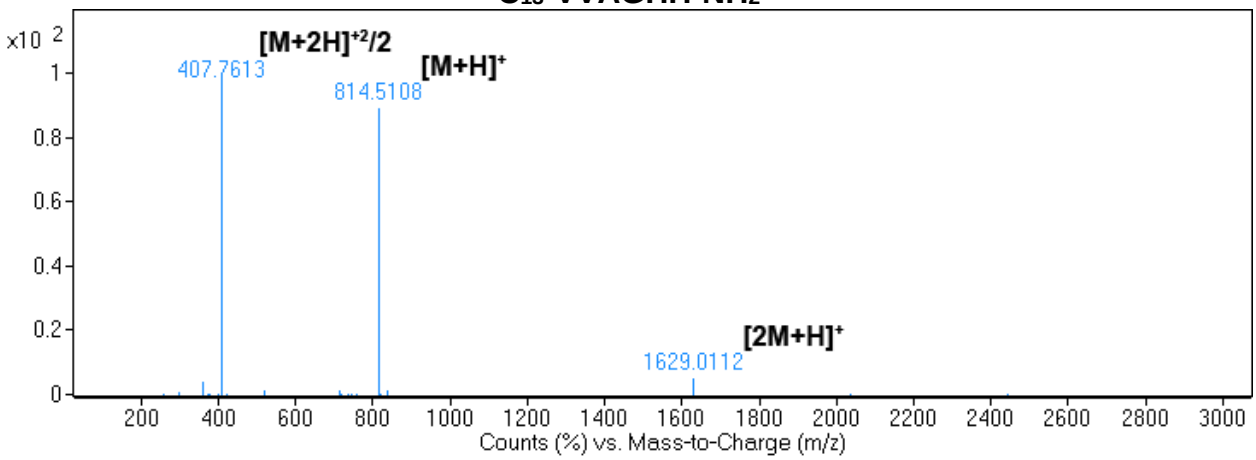
*Supplementary Material*

# Metal Chelating Self-assembling Peptide Nanofiber Scaffolds for Modulation of Neuronal Cell Behavior

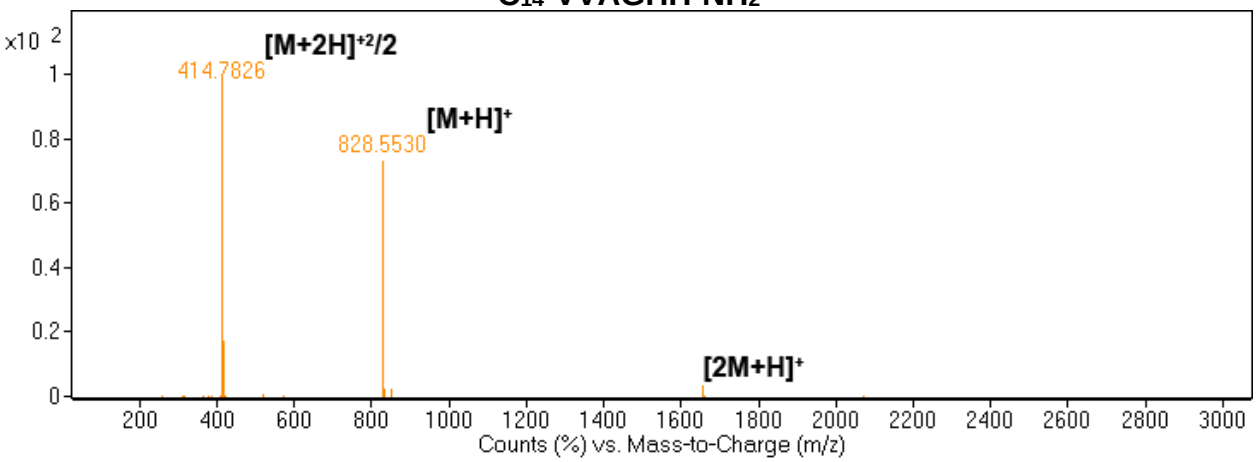
**$C_{12}$-VVAGHH-$NH_2$**




**$C_{13}$-VVAGHH-$NH_2$**




**$C_{14}$-VVAGHH-$NH_2$**



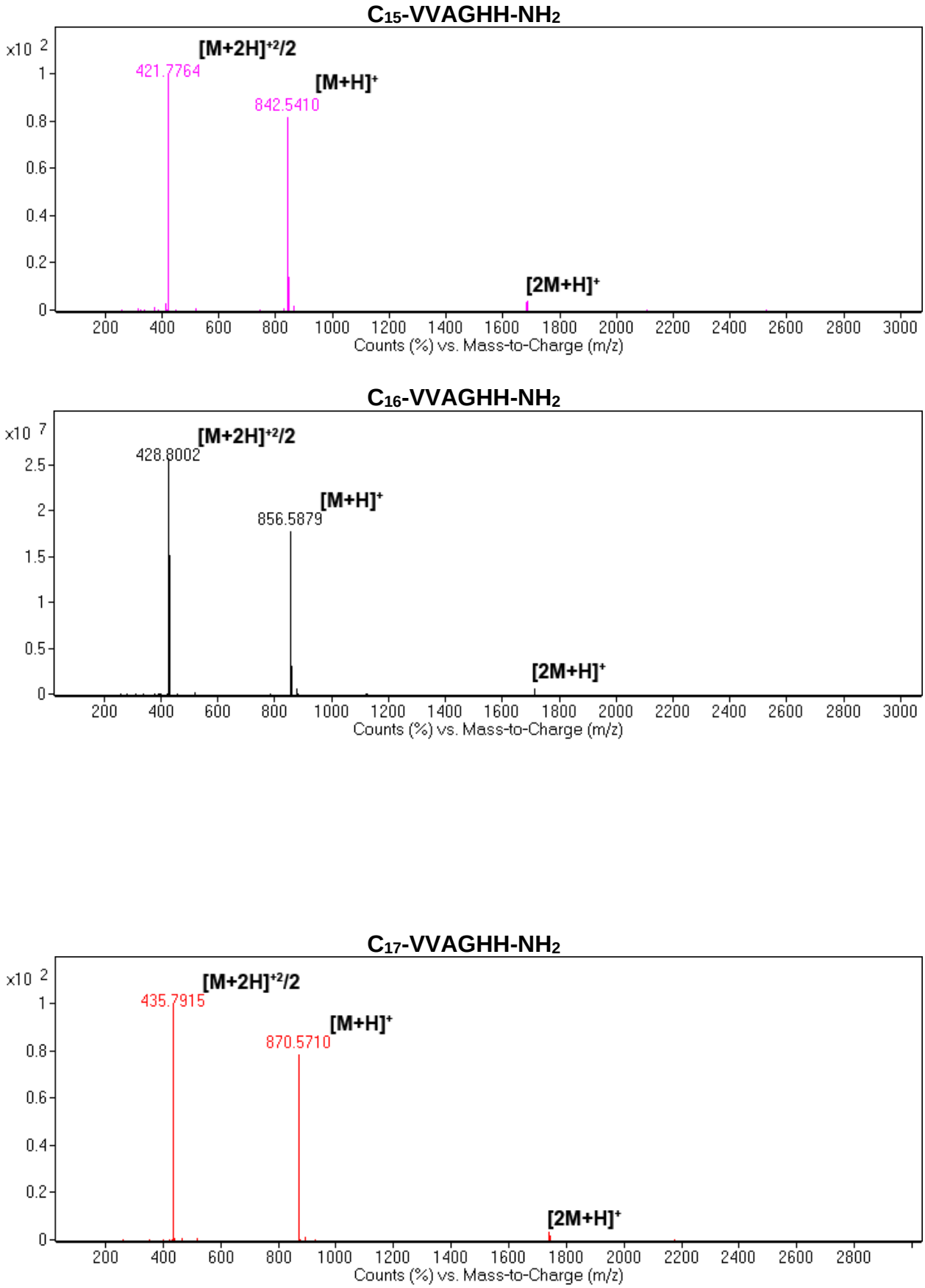



**Figure S1**. Mass spectra of synthesized peptide amphiphiles. The m/z values corresponding to $[M+H]^+$ (target peak), $[M+2H]^{+2}/2$, and $[2M+H]^+$ ionized species are detected.

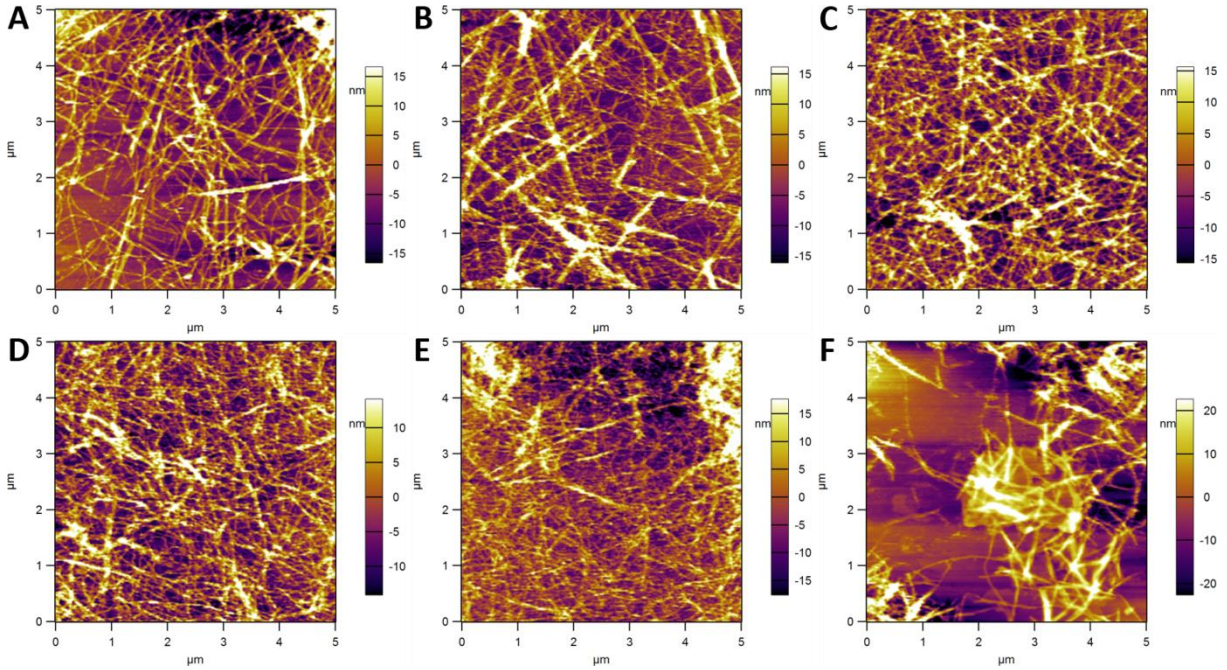



**Figure S2.** Atomic force microscopy images of $C_{12}$PA (A), $C_{13}$PA (B), $C_{14}$PA (C), $C_{15}$PA (D), $C_{16}$PA (E), and $C_{17}$PA (F).

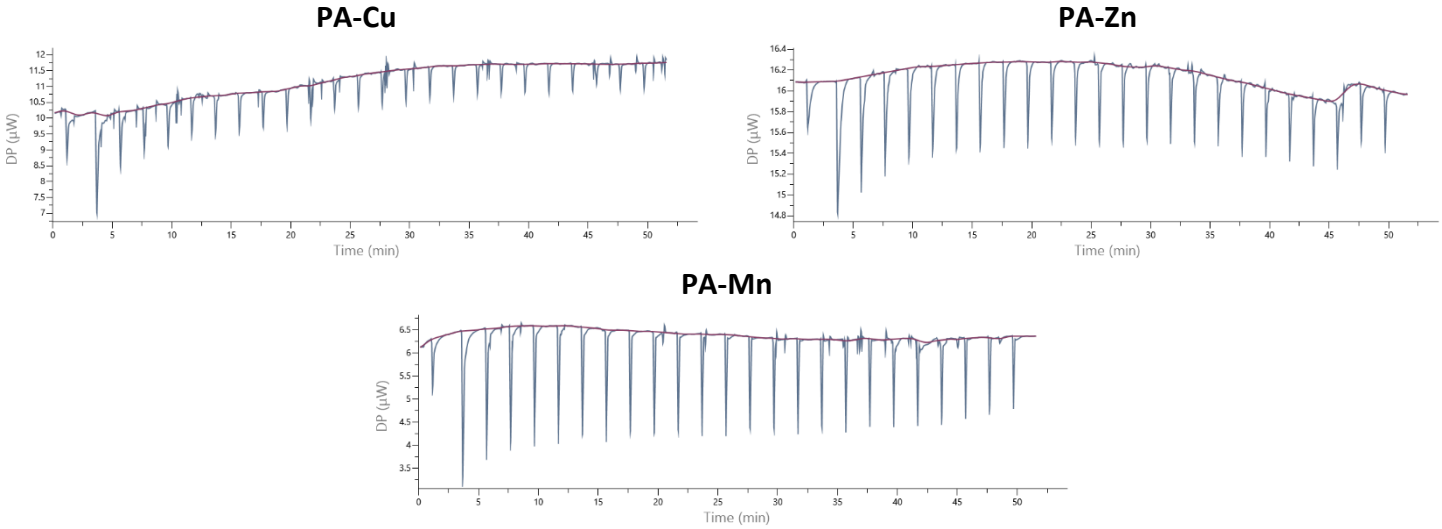



**Figure S3.** Binding of amphiphilic peptides to divalent metals (Cu, Zn, or Mn) according to isothermal titration calorimetry (50 mM HEPES, pH = 5.5, 37 °C). Integrated data for the titration after subtraction of control are shown.

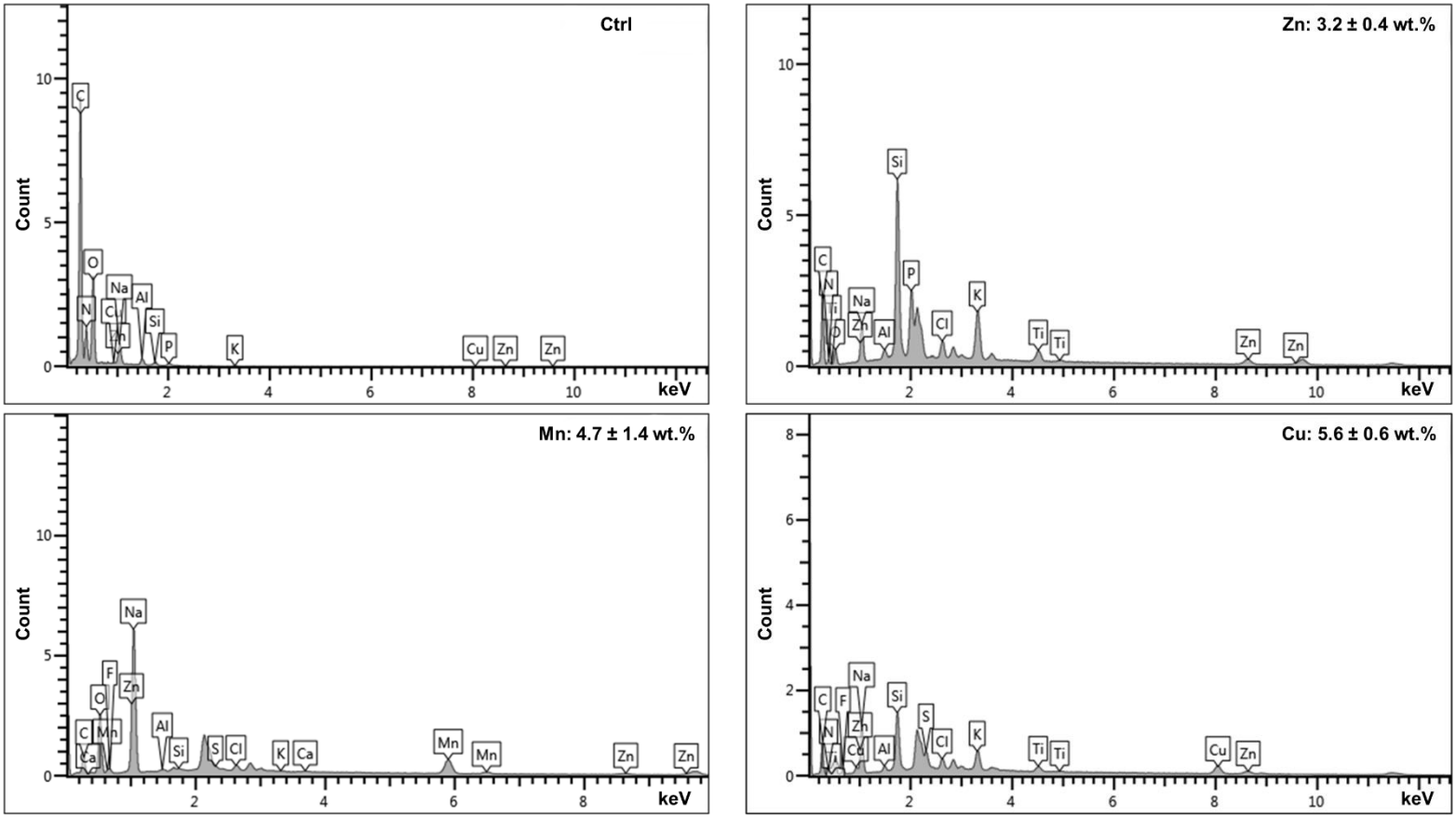
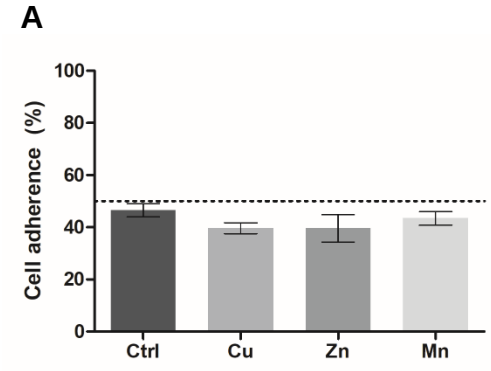



**Figure S4.** SEM-EDX analysis of elemental composition of TM-modified PA gels.




B

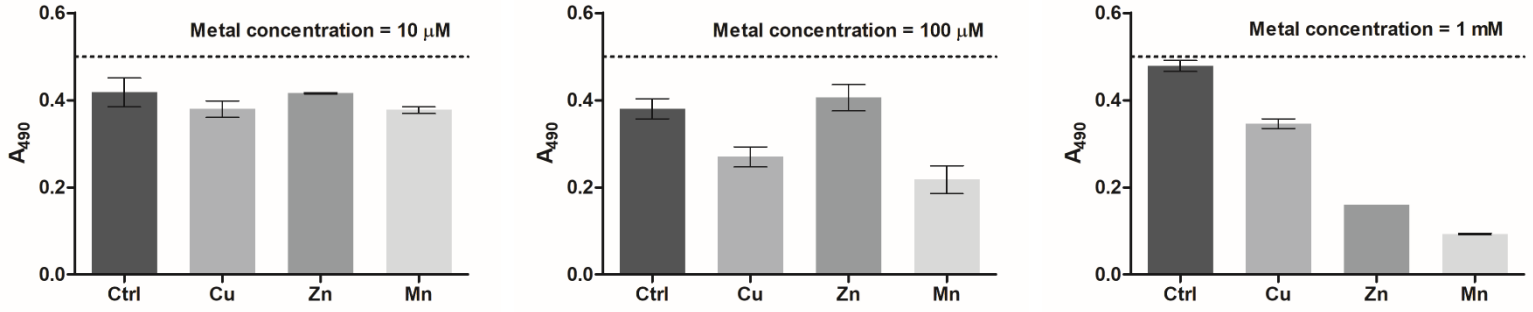



**Figure S5. A.** Adherence of 3T3 fibroblasts on the surface of trace metal-modified PA matrices after 4 h incubation (% of the total cell number). **B.** Viability of 3T3 fibroblasts cultured on trace metal-modified PA matrices (metal concentration was 10, 100, or 1000 μM), according to MTS test, 24 h post-seeding. Dotted line shows the cell adherence (%) (A) or cell viability signal (B) on the polystyrene surface of tissue culture plate.

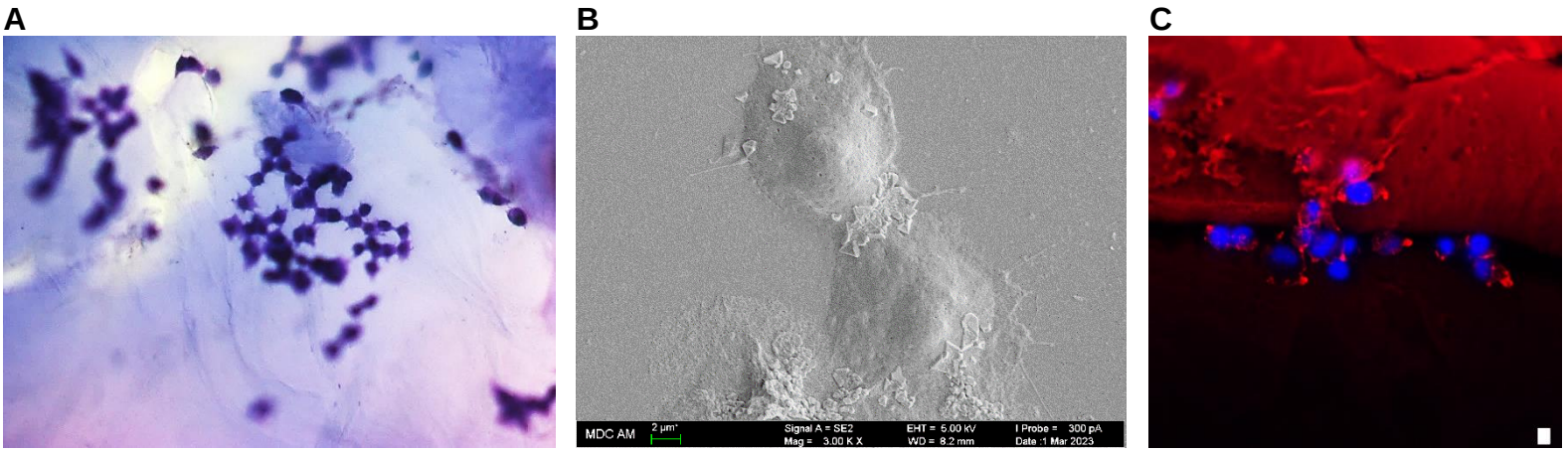



**Figure S6.** Images of fixed PC-12 cells on TM-modified PA matrices visualized at 24 h post-seeding using bright-field microscopy (**A**), scan electron microscopy (**B**), and laser scan confocal microscopy (**C**). The cells were stained with cresyl violet (bright-field microscopy) or phalloidin CruzFluor™ 647 conjugate (LSCM) prior visualization.