Electrochemical behavior and biocompatibility of TiO_2@C core-shell NWs deposited by PECVD for cellular interface application.

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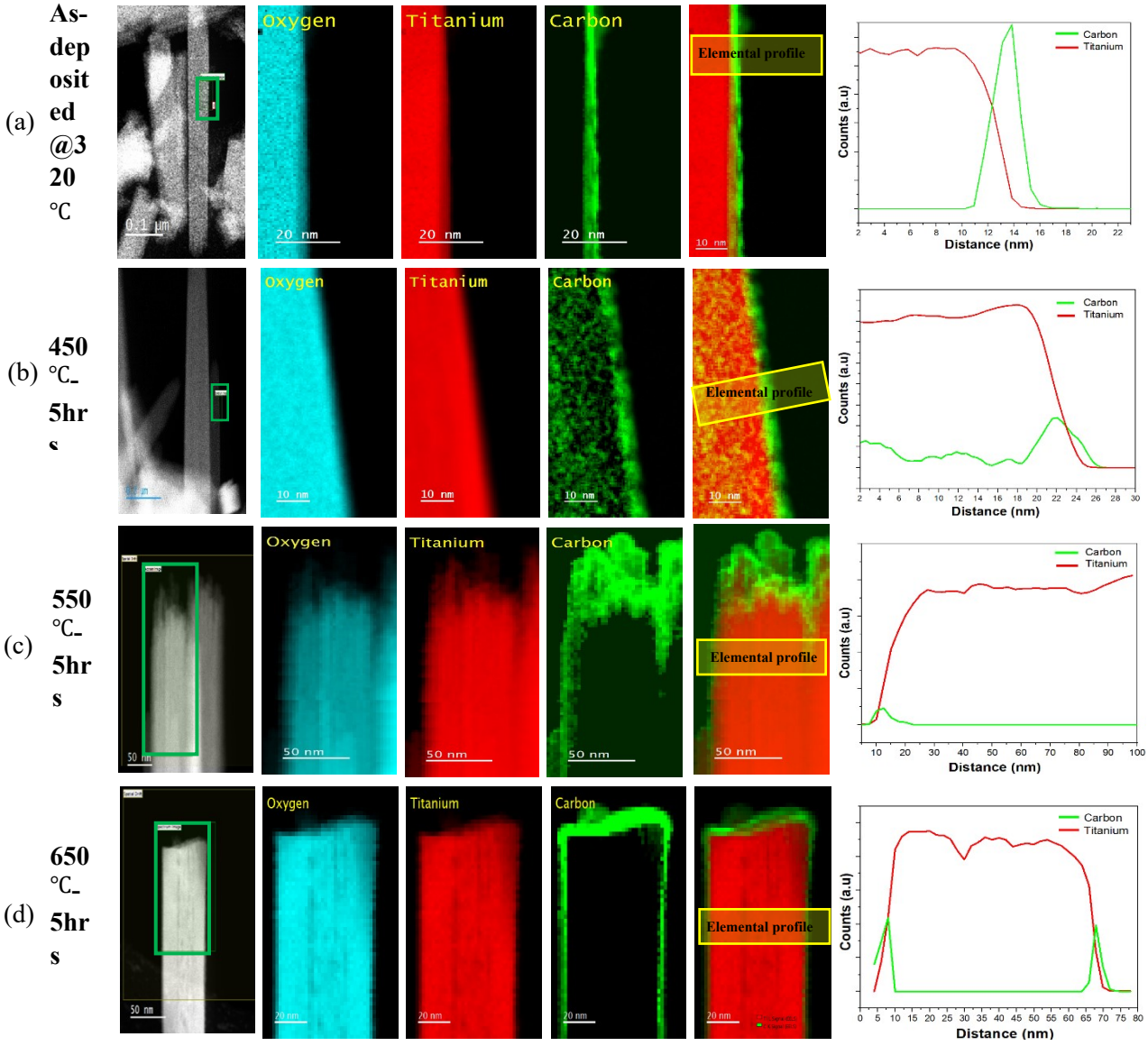

Figure S1: STEM image and EELS elemental maps of TiO_2@C core-shell NWS for (a) as-deposited carbon, (b) in-situ annealed at 450 °C for 5 hours, (c) 550 °C for 5 hours, and (d) 650 °C for 5 hours, with their Elemental profile of C and Ti showing the shell thickness.

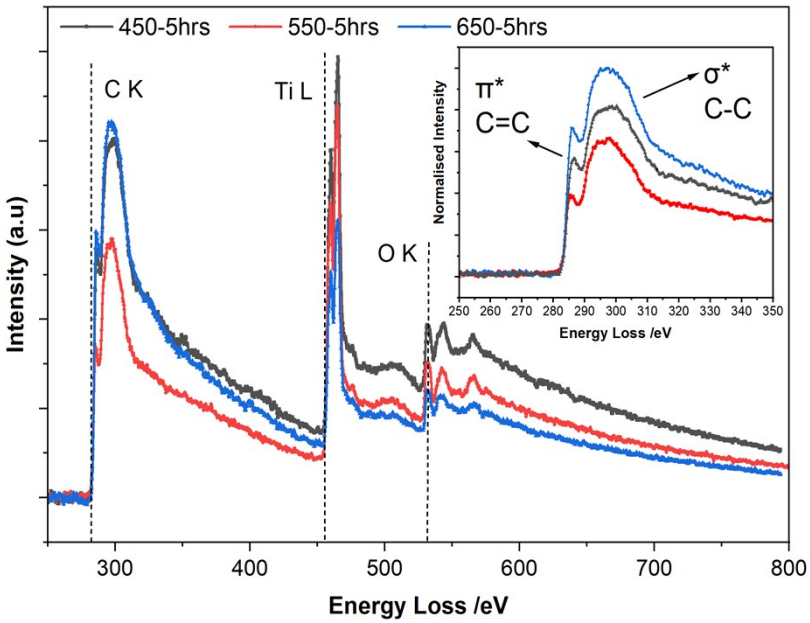

Figure S2: Top region overall EELS spectra of TiO_2@C core-shell NWS annealed at 450 °C, 550 °C, and 650 °C with an inset figure showing the high-resolution C K-edge.

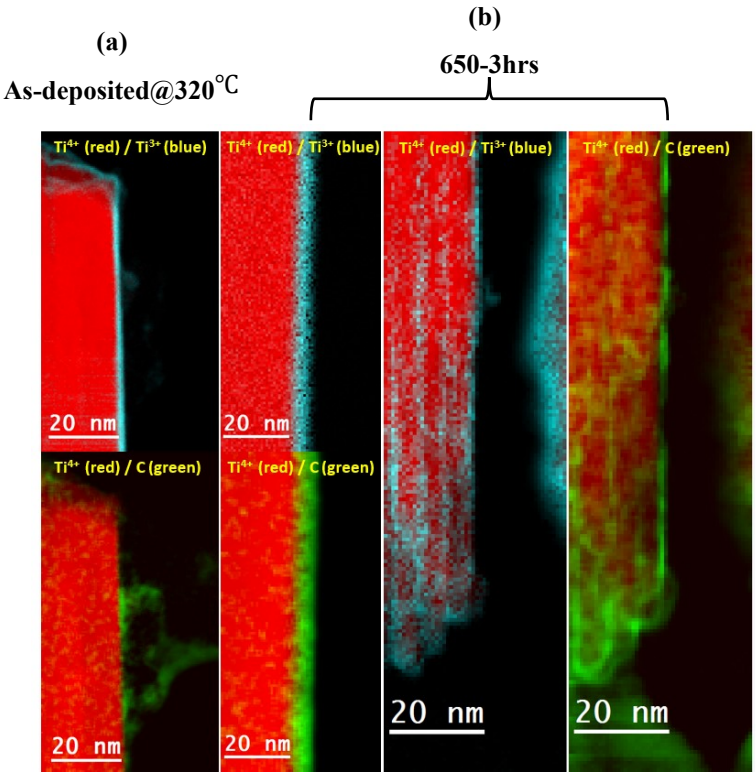

Figure S3: EELS elemental maps of TiO_2@C core-shell NWS for (a) as-deposited carbon, (b) in-situ annealed at 650°C for 3 hours.

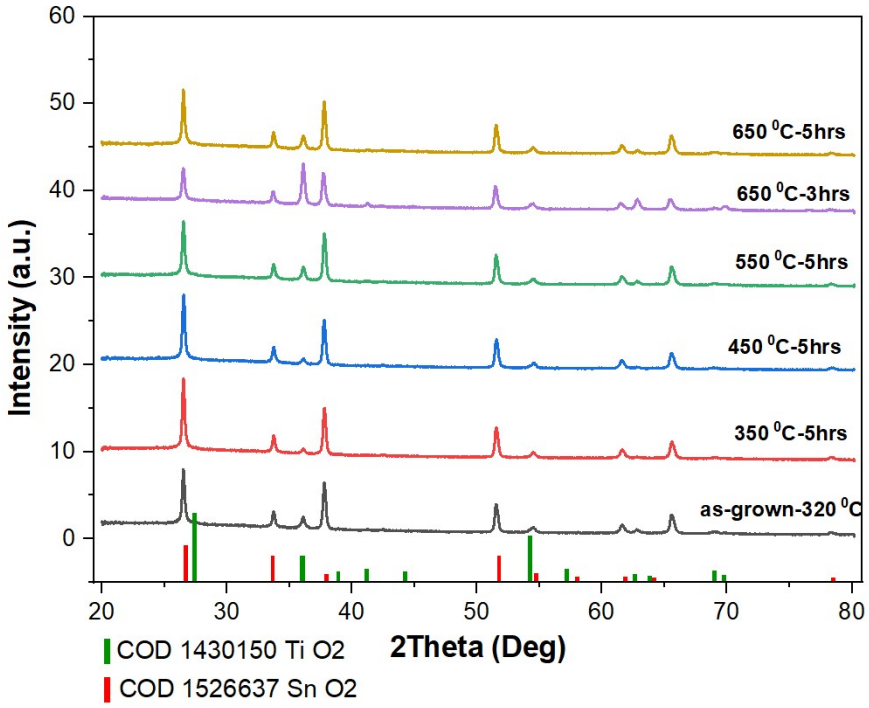

Figure S4: XRD of TiO_2@C core-shell NWS annealed at different temperatures and times.

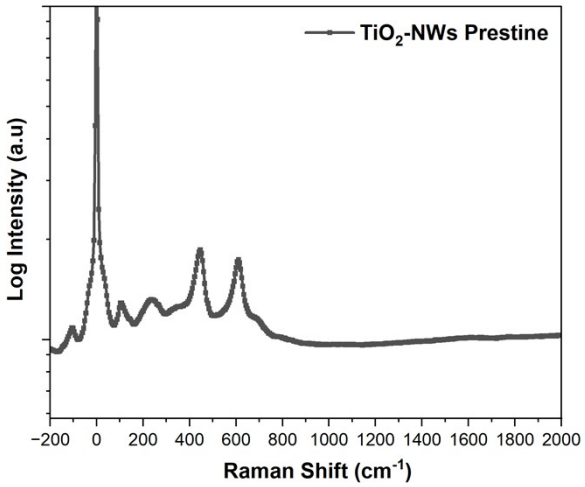

Figure S5: Raman Spectroscopy spectrum of pristine TiO2-NWs.

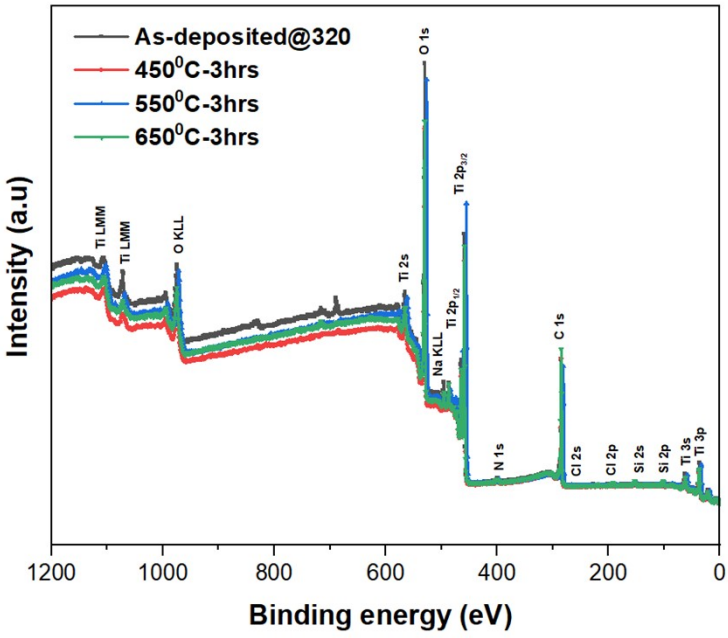

Figure S6: XPS survey spectra of TiO_2@C core-shell NWS in-situ annealed at 450 ℃, 550 ℃, and 650 ℃ for 3 hours, showing dominants binding energy peaks corresponding to Ti, C and O signals.

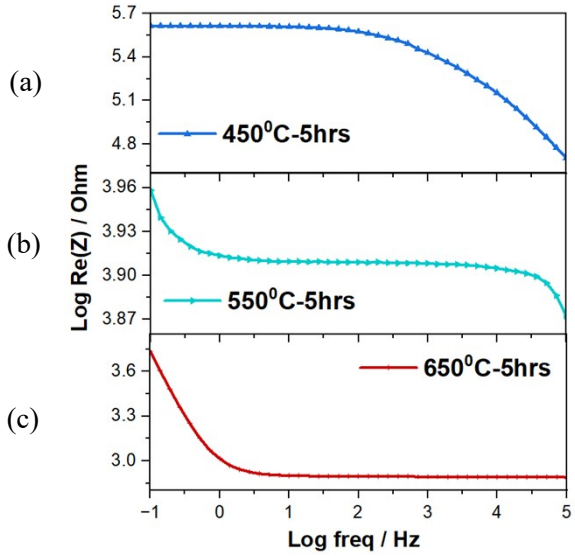

Figure S7: Bode plots of TiO_2@C-NWs samples in-situ annealed at (a) 450℃ for 5 hours, (b) 550℃ for 5 hours, and (c) 650℃ for 5 hours.

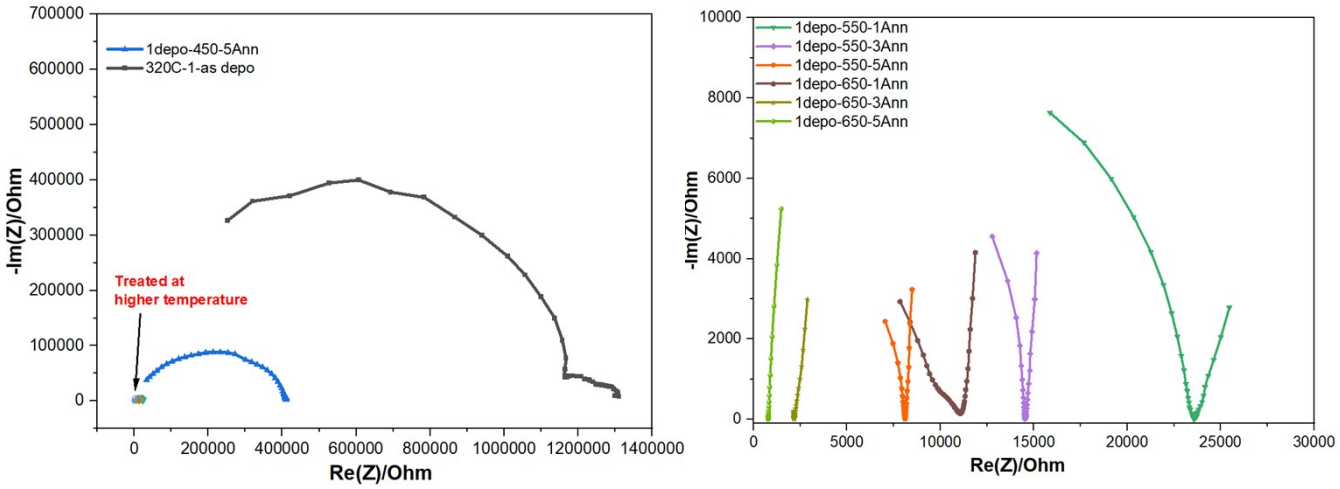

Figure S8: Nyquist impedance spectra of (a) as-deposited TiO_2@C-NWs sample and in-situ annealed at 450°C for 5 hours, and (b) samples annealed at 550°C and 650°C for 1, 3, 5 hours.