NeuroNexus

Z-Coat Technology

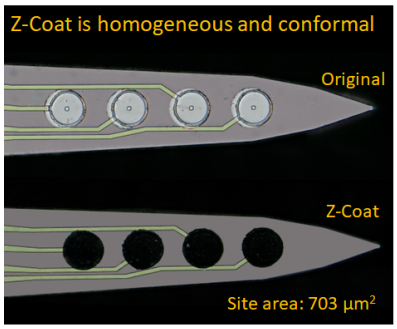
See further into the brain using Z-Coat!

What is Z-Coat?

Z-Coat is a novel, proprietary electrode material that is only available at NeuroNexus and designed specifically to address shortcomings of conventional conductive polymers in the field of neuroscience research.

Z-Coat alters the electrode surface topography by increasing the effective surface area, while retaining the original geometric surface area. Z-Coat is mechanically stable and suitable for repeated electrode insertion, *in vivo*.

Z-Coat Benefits			
Impedance	Charge Storage Capacity Comparison		
	Pt	Ir	IrOx
10x ↓	50x ↑	40x ↑	3x ↑

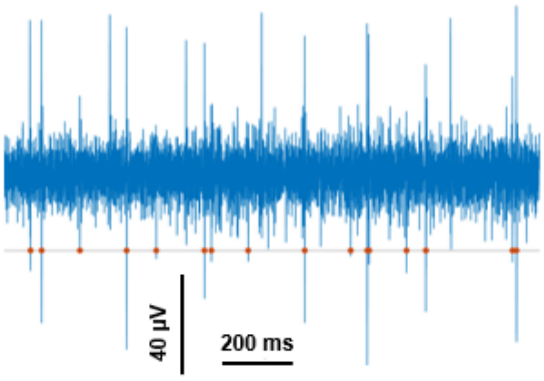


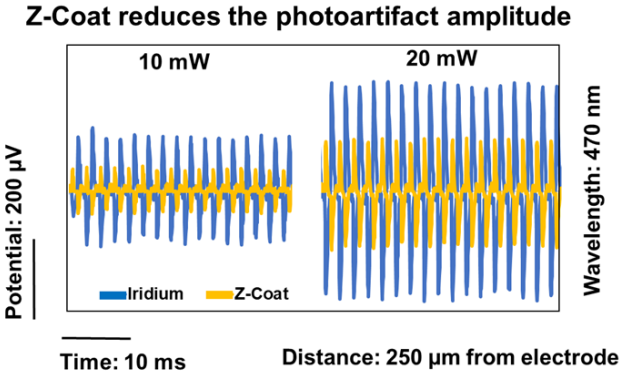
Z-Coat reduced impedance and noise improves the recording capability of microelectrode arrays, giving the advantage of smaller amplitude signal detection. Z-Coat improves the signal-to-noise ratio which allows researchers to peer further into the tissue to detect low amplitude signals that are typically buried in the noise when using conventional electrode materials.
Z-Coat improves charge storage capacity leading to increased electrode stimulation efficacy. Additionally, Z-Coat also reduces the photoelectric effect.

Recording improvement:

The improved signal quality assists recording in three ways:

- Reduced impedance by 10x
- Minimized signal attenuation through improved amplifier interaction
- Reduced noise floor





Photoelectric artifact reduction

Z-Coat minimizes the electrical potentials that are caused by optical stimulation and the subsequent photoelectric artifact effect.

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