

## **BIO-IDENTICAL SIGNALING TECHNOLOGY**

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At Eng3 Corporation we are focused on the most abundant substance in our cells. This substance has every other cellular component imbedded in it and, therefore, forms the inner environment of our cells. As we know, all environments influence their contents. This essential substance is cellular water and its contents, that we are focused on, are structurally damaged proteins, (damaged by oxidative stress). Over the last several years, thanks to researchers like Prof. Gerald Pollack, Vladimir L. Voeikov and many others, we have developed a far better understanding of this life-important substance and the life-maintaining processes with which it is involved.

Now, because we know more specifics about the attributes of water, it is possible to utilize, optimize and explain a bio-physical process that could be called indirect-induced-NIR repair process. Herein, the electromagnetic energies are in the far-NIR range at 1200 nm and higher, always precisely matching the absorption peaks of water. At these peaks, water not only absorbs the energy, it also transfers (ultrafast) the energy between networked molecules, or more precisely through its hydrogen bond network. If the volume of arranged water molecules is small enough, like the water molecules' network in a cell, it even alters the attributes in the so-called EZ water. This cascading effect is unlimited in distance, as long as the water molecules form small networks or are connected to each other as in humidified air, but not accumulating to bulk water. Inevitably, it then transmits the energy to all components that are imbedded in such a network of water molecules, and the embedded proteins receive that as an energy kick to re-modulate. Because of the energy conversion during the transfer from electromagnetic energy to hydrogen bond energy to the receiving protein, this process could be called indirect-induced-NIR process. Again, this indirect-induced-NIR process is only triggered by a very specific NIR wavelength, converted over and transferred by water molecules and then received by the protein.

Within the water of our cells, molecular oxygen is constantly being split apart and used for two different energy generating processes. One is a bio-chemical process, wherein one O-atom is used for the ATP production. The second one is a bio-physical process, wherein the excited ROS emits its electromagnetic energy (NIR signal) when it transfers into the more preferred unexcited state. This excited ROS is called singlet oxygen. Its ROS-specific signal can be measured today in any living cell that metabolizes oxygen. Current research shows that this indirect-induced-NIR repair process is actually a permanent ongoing event in our cells.

This bio-physical signal coincides with a property for which water actually has an absorption peak. For more than 30 years, experiments and attempts have been made to use this specific electromagnetic energy by at first creating singlet oxygen and then "harvesting" only its emission. Eng3 corporation advanced significantly with its NanoVi technology, beyond previous attempts with singlet oxygen techniques, by focusing on and optimizing the most important properties and designing the state-of-the-art ROS-specific signaling technology.

Optimal targeting of the direct generation of the ROS-specific electromagnetic energy (signal) is only possible with the patented NanoVi technology. Because of the direct signal creation, the necessity of using a chemical substance to act as a catalyst to create singlet oxygen is avoided. Such catalytic attempts must not only prove that any singlet oxygen has in fact been created at all, but also require measuring the amount of created singlet oxygen and the intensity of its emitted electromagnetic energy.

NanoVi technology is constantly measuring the ROS-specific energy output. It compares it with defined set values and optimizes the output of the signal, which is a significant advantage over obsolete approaches of using chemical catalysts for singlet oxygen production.

The understanding of the above mechanisms and advances in certain areas of optics and electronics have made it possible to develop new technology to improve the individual's general state of health as well as to address age-related or chronic disorders. Designed for ease of use and safety and because of its chemical and drug-free concept, it is perfect for therapeutic or preventative applications, where regaining, maintaining and boosting of cellular function is the objective.