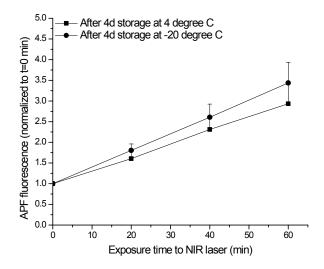
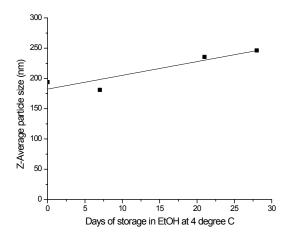
## **Supplementary Information**

Photoactivation of Core-Shell Titania Coated Upconversion Nanoparticles and its Effect on Cell Death

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**Figure S1.** ROS production from  $TiO_2$ -UCN stored as dry powder under different conditions.  $TiO_2$ -UCN activity for ROS production under 980 nm NIR irradiation (2.16 W cm<sup>-2</sup>) after storage for 4 days at -20 °C compared to 4 °C as determined by APF fluorescence and plotted as a function of exposure time (t) to the 980 nm NIR laser. P > 0.05 between 4 °C and -20 °C.



**Figure S2.** Hydrodynamic size of the nanoparticles at different storage days in EtOH at 4 °C as measured by dynamic light scattering. The storage medium, EtOH, was removed and the TiO<sub>2</sub>-UCN was resuspended in water prior to the measurement