Supporting Information

Oxygen Supply by Photosynthesis to an Implantable Islet Cell Device

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Supplementary Fig. 1 Functional characterization of the planar light source. A Actual illuminated WG powered by 3 LEDs illuminating at 660 nm. The area above the LED was coated with gold (reflective collimator). Each dot on the surface of the WG is a hemisphere with a diameter of 0.3 mm. The gold areas above the LED were intentionally scraped to show the LED light. B Light intensity (CCD results).
Supplementary Fig. 2 Oxygen profiling within the islet compartment. A Schematic drawing of the system to measure the oxygen profile within the islet compartment: 1,200 immobilized islets consuming 2.6 pmole/min/IEQ coupled to algae slab and illuminated at 6.5 µE/sec/m². B Oxygen electrode was inserted at decrements of 100 µm down to the interface of the gas permeable membrane. At time zero, light was turned off (red “X”) to evaluate the OCR and turned on again (green square).