

SUPPORTING INFORMATION

	Peak position (V) no glucose	Peak height (A) no glucose	Peak position (V) with glucose	Peak height (A) with glucose
<i>Ferrocene methanol, <u>no GOX [bare]</u></i>	0.21255	$1.58 \cdot 10^{-6}$	//	//
<i>Ferrocene methanol, <u>free GOX [bare]</u></i>	0.21744	$1.28 \cdot 10^{-6}$	0.23941	$1.63 \cdot 10^{-6}$
<i>Ferrocene methanol, <u>NY6, imm GOX</u></i>	0.24185	$1.60 \cdot 10^{-6}$	0.24673	$3.28 \cdot 10^{-6}$
<i>Ferrocene methanol, <u>NY6 CNT, free GOX</u></i>	0.23697	$1.80 \cdot 10^{-6}$	0.25162	$2.31 \cdot 10^{-6}$
<i>Ferrocene methanol, <u>NY6 CNT, imm GOX</u></i>	0.25650	$1.77 \cdot 10^{-6}$	0.31509	$1.79 \cdot 10^{-5}$

Table SI 1. Anodic peak potentials (V) and currents (A) for the performed experiments with or without glucose.

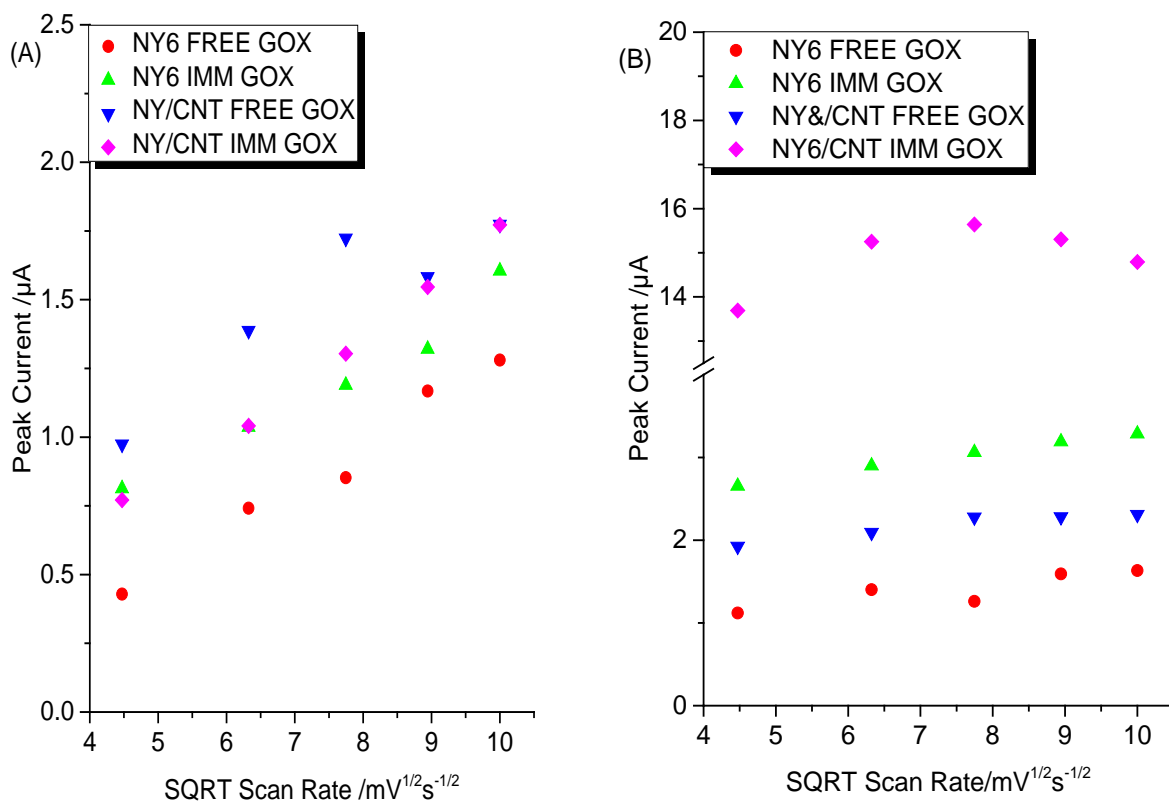


Figure SI 1. Anodic peak currents (V) vs $\nu^{1/2}$ for the performed experiments without (A) or with (B) 25.2 mM glucose. The fitting of linear region of each plot allowed the calculation of diffusion coefficients Table SI 2) considering an area of 0.28 cm^2 for covered GC electrode and 0.07 cm^2 for the bare GC electrode.

	NO GLUCOSE	GLUCOSE
<i>Ferrocene methanol, <u>no</u> <u>GOX [bare]</u></i>	6.95·10 ⁻¹⁰	
<i>Ferrocene methanol, <u>free</u> <u>GOX [bare]</u></i>	6.67·10 ⁻⁹	3.71502·10 ⁻⁹
<i>Ferrocene methanol, <u>NY6</u>, <u>imm GOX</u></i>	5.01044·10 ⁻⁹	3.46647·10 ⁻⁹
<i>Ferrocene methanol, <u>NY6</u> <u>CNT, free GOX</u></i>	5.15·10 ⁻⁹	2.20·10 ⁻⁹
<i>Ferrocene methanol, <u>NY6</u> <u>CNT, imm GOX</u></i>	9.15·10 ⁻⁹	1.97·10 ⁻⁷

Table SI 2. Evaluated diffusion coefficients obtained applying Randles-Sevcik equation:

$i_p = 2.686 \cdot 10^5 \cdot z^{\frac{3}{2}} \cdot A \cdot D^{\frac{1}{2}} \cdot C \cdot v^{\frac{1}{2}}$, where z is the number of exchanged electrons, A the electrode area, D the diffusion coefficient, C the concentration (mol/mL) and v the scan rate.

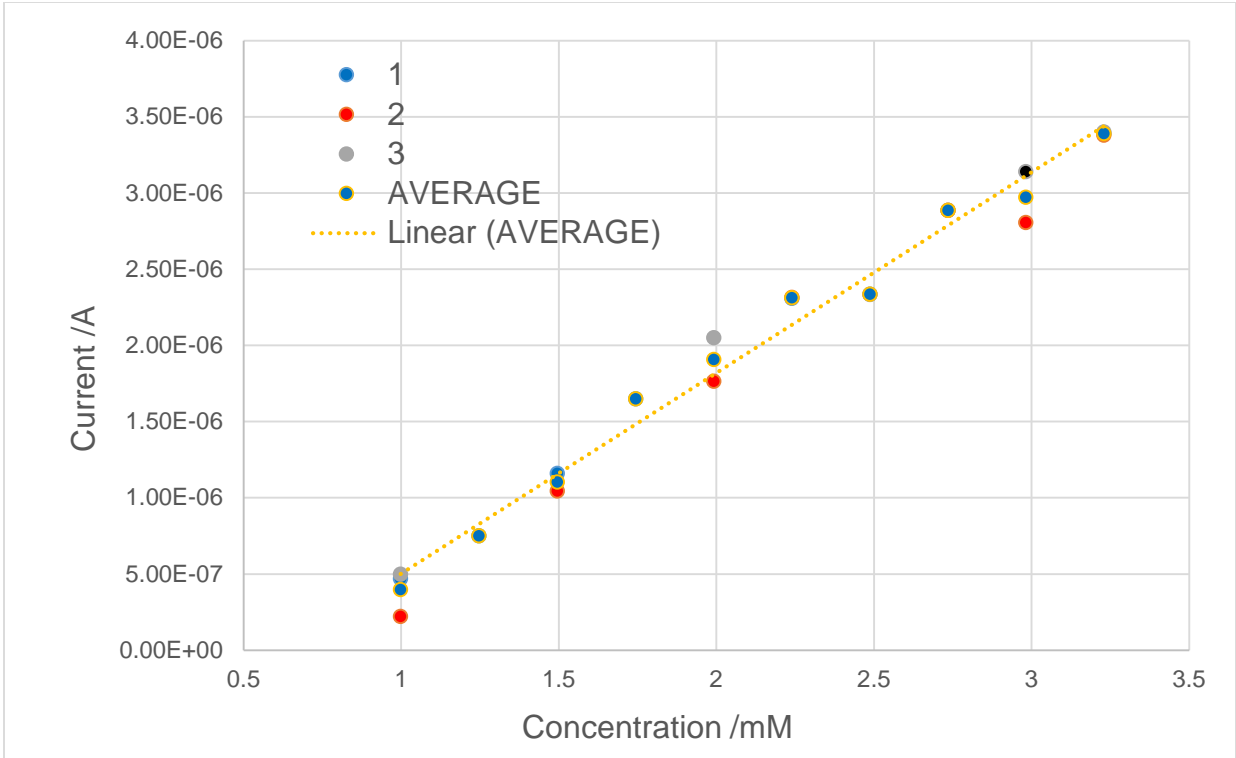
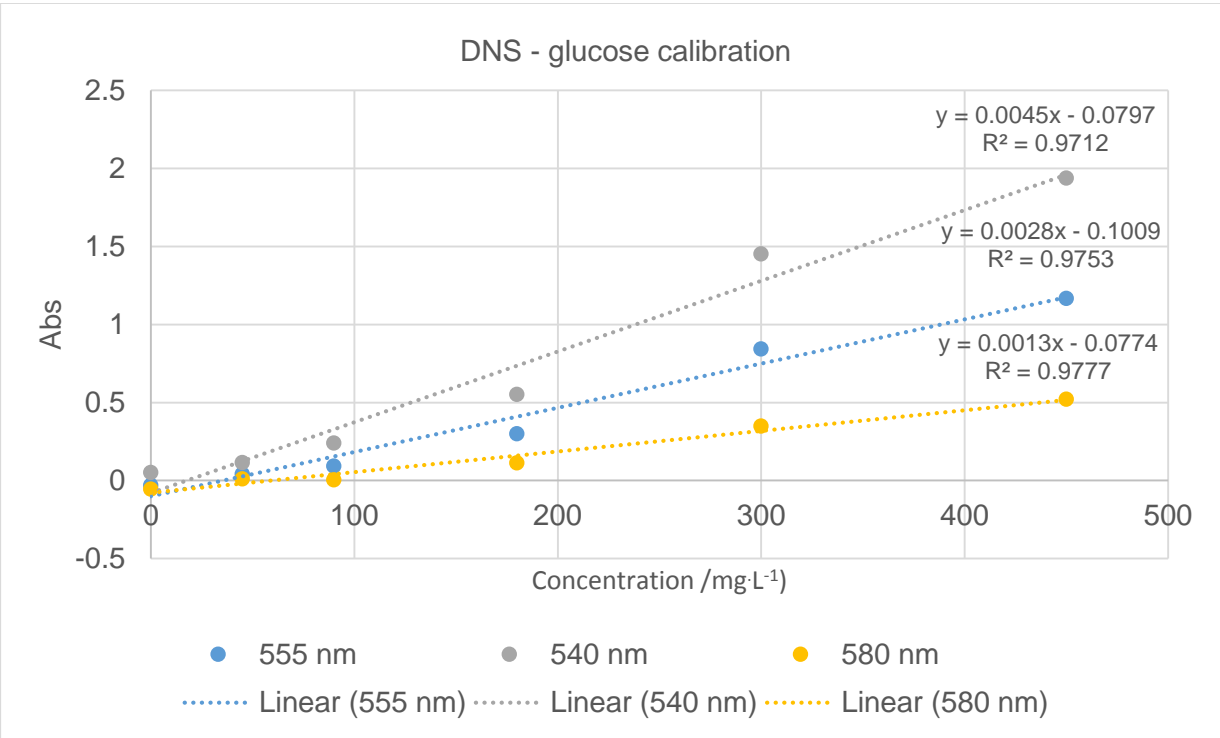


Figure SI 2. Linear region for replicates of the calibration of the biosensor at day 45. Biosensor was kept in a buffer solution at 4°C while not used.



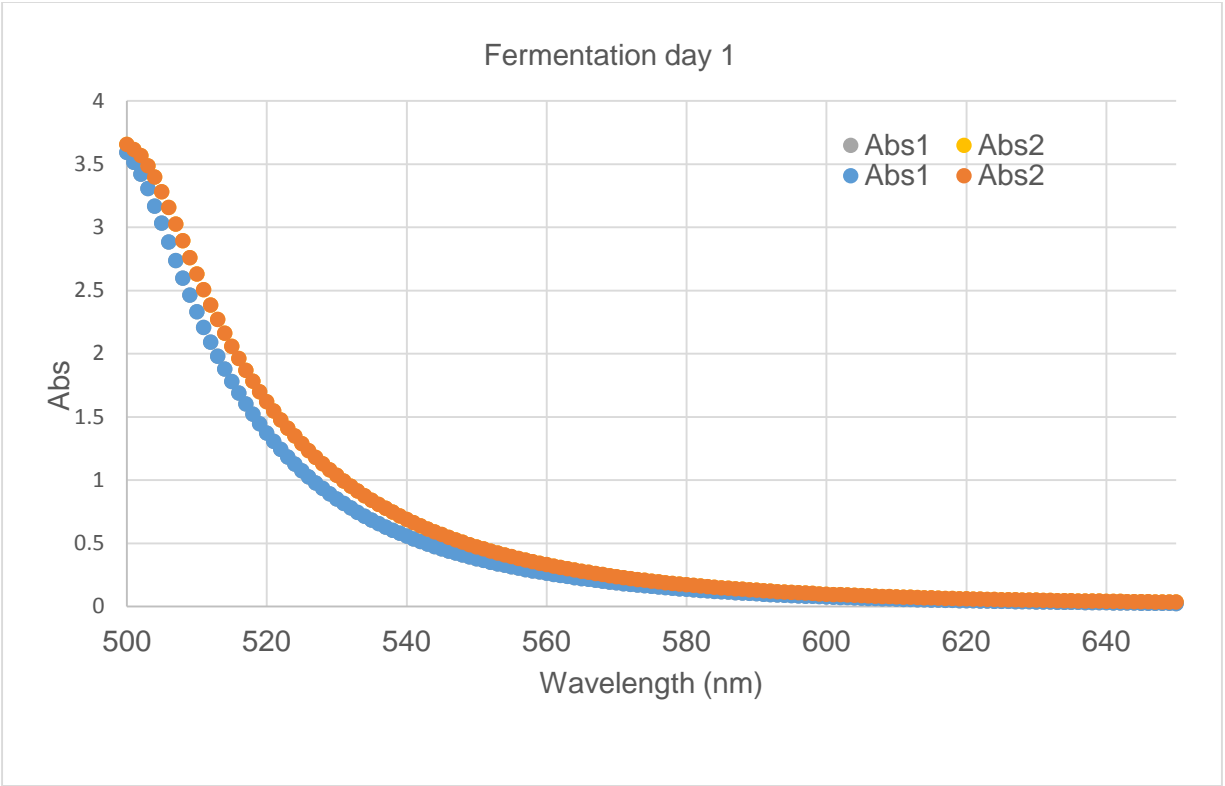


Figure SI 3. Upper plot: DNS calibration at three different chosen wavelengths. 555 nm only was employed for sample analysis. Lower plot: DNS example for 2 replicates of fermentation extract diluted 1:10 from day 1.

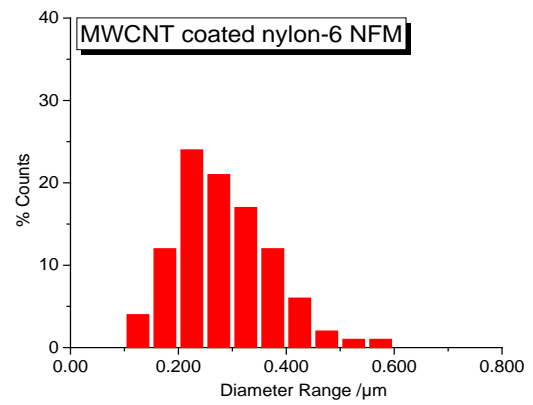
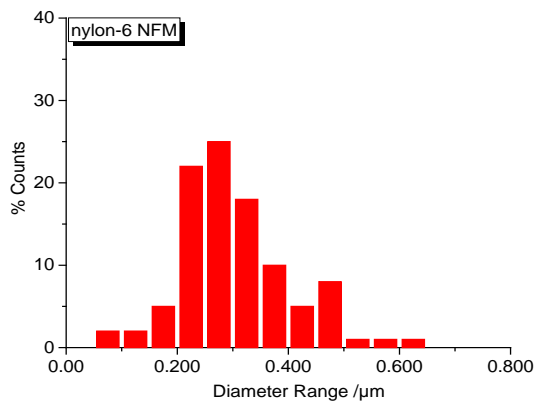
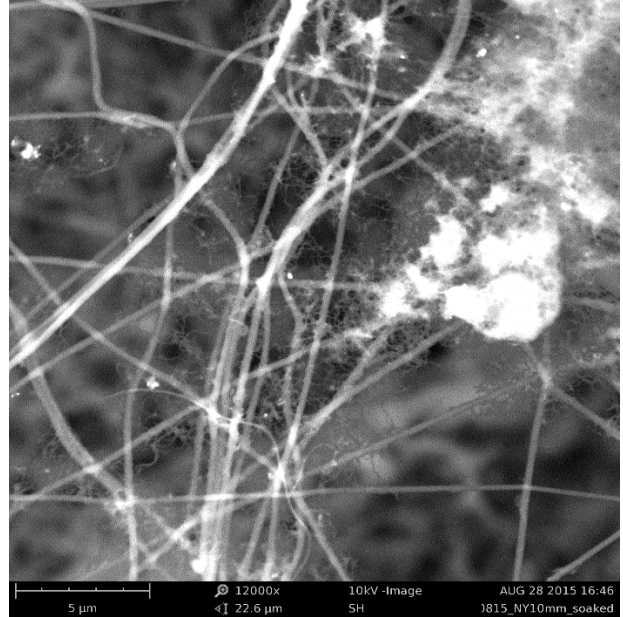
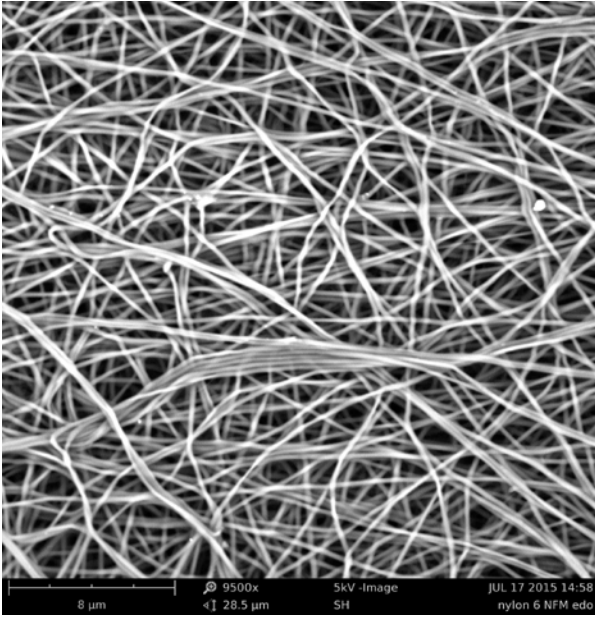


Figure SI 4. SEM characterization of upper-left: Nylon6 NFM and upper-right: MWCNT/Nylon6 NFM. Pictures were taken at 5 kV (Nylon6) and 10 kV (MWCNT/Nylon6) respectively. Lower left: example of Fiber-metric analysis and Gaussian fitting of evaluated distribution. Fiber-metric analysis yielded an average 276 ± 7 nm for Nylon6 NMF and 283 ± 4 nm for MWCNT coated Nylon6 NMF. MWCNT attached to Nylon6 fibers are clearly visible in upper-right picture.