

Materials List for:

Optical Detection of *E. coli* Bacteria by Mesoporous Silicon Biosensors

Naama Massad-Ivanir^{*1}, Giorgi Shtenberg^{*2}, Ester Segal^{1,3}

¹Department of Biotechnology and Food Engineering, Technion - Israel Institute of Technology

²The Inter-Departmental Program of Biotechnology, Technion - Israel Institute of Technology

³The Russell Berrie Nanotechnology Institute, Technion - Israel Institute of Technology

*These authors contributed equally

Correspondence to: Ester Segal at esegal@tx.technion.ac.il

URL: <https://www.jove.com/video/50805>

DOI: [doi:10.3791/50805](https://doi.org/10.3791/50805)

Materials

Name	Company	Catalog Number	Comments
Si wafer	Siltronix Corp.		Highly-B-doped, p-type, 0.0008 Ω-cm resistivity, <100> oriented
Aqueous HF (48%)	Merck	101513	
Ethanol absolute	Merck	818760	
PBS buffer solution (pH 7.4)			prepared by dissolving 50 mM Na ₂ HPO ₄ , 17 mM NaH ₂ PO ₄ , and 68 mM NaCl in Milli-Q water (18.2 MΩ)
Saline 0.85% w/v			prepared by dissolving 0.85 g NaCl in 100 ml Milli-Q water (18.2 MΩ)
95% (3-Mercaptopropyl)trimethoxysilane (MPTS)	Sigma Aldrich Chemicals	175617	
PEO-iodoacetyl biotin	Sigma Aldrich Chemicals	B2059	
Streptavidin (SA)	Jackson ImmunoResearch Labs Inc.	016-000-114	
Fluorescein (DTAF)-streptavidin	Jackson ImmunoResearch Labs Inc.	016-010-084	
Biotinylated-rabbit IgG	Jackson ImmunoResearch Labs Inc.	011-060-003	
Fluorescently tagged anti-rabbit IgG	Jackson ImmunoResearch Labs Inc.	111-095-003	
Fluorescently tagged anti-mouse IgG	Jackson ImmunoResearch Labs Inc.	115-095-003	
Biotinylated <i>E. coli</i> antibody	Jackson ImmunoResearch Labs Inc.	1007	
<i>E. coli</i> (K-12)			was generously supplied by Prof. Sima Yaron, Technion