

Materials List for:

# Techniques for the Evolution of Robust Pentose-fermenting Yeast for Bioconversion of Lignocellulose to Ethanol

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## Materials

Name	Company	Catalog Number	Comments
Cellic Ctec, Contains Xylanase (endo-1,4-)	Novozymes	No product number	<a href="http://www.novozymes.com">www.novozymes.com</a> , 1-919-494-3000
Cellic Htec, Contains Cellulase and Xylanase	Novozymes	No product number	<a href="http://www.novozymes.com">www.novozymes.com</a> , 1-919-494-3000
Toasted Nutrisoy Flour	Archer Daniels Midland Co. (ADM)	63160	ADM, 4666 Faries Parkway, Decatur, IL 1800-37-5843
Pluronic F-68 (Surfactant)	Sigma-Aldrich	P1300	Sigma-Aldrich
Difco Vitamin Assay Casamino Acids	Becton Dickinson and Company	228830	multiple suppliers: e.g., Fisher Scientific, VWR, Daigger
D,L-tryptophan	Sigma-Aldrich	T3300	multiple suppliers: e.g., Fisher Scientific, VWR, Daigger
L-cysteine	Sigma-Aldrich	C7352	multiple suppliers: e.g., Fisher Scientific, Sigma-Aldrich
Bacto Agar	Becton Dickinson and Company	214010	multiple suppliers: e.g., Fisher Scientific, VWR, Daigger
Bacto Malt Extract	Becton Dickinson and Company	218630	multiple suppliers: e.g., Fisher Scientific, VWR, Daigger
Bacto Yeast Extract	Becton Dickinson and Company	212750	multiple suppliers: e.g., Fisher Scientific, VWR, Daigger
Peptone Type IV from soybean	Fluka	P0521-500g	multiple suppliers: e.g., Fisher Scientific, VWR, Daigger
Adenine,>99% powder	Sigma-Aldrich	A8626	CAS 73-24-5. Could use other brands. Multiple suppliers: e.g., Sigma-Aldrich, Acros Organics, MP Biomedicals LLC
Cytosine,>99%	Sigma-Aldrich	C3506	CAS 71-30-7. Could use other brands. Multiple suppliers: e.g., Sigma-Aldrich, Acros Organics, MP Biomedicals LLC
Guanine, SigmaUltra	Sigma-Aldrich	G6779	CAS 73-40-5. Could use other brands. Multiple suppliers: e.g., Sigma-Aldrich, Acros Organics, MP Biomedicals LLC
Thymine, 99%	Sigma-Aldrich	T0376	CAS 65-71-4. Could use other brands. Multiple suppliers: e.g., Sigma-Aldrich, Acros Organics, MP Biomedicals LLC
Uracil, 99%	Sigma-Aldrich	U0750	CAS 66-22-8. Could use other brands. Multiple suppliers: e.g.,

			Sigma-Aldrich, Acros Organics, MP Biomedicals LLC
Dextrose (D-Glucose), Anhydrous, Certified ACS	Fisher Chemical	D16-500	CAS 50-99-7. Could use other brands. Multiple suppliers: e.g., Acros Organics, Fisher Scientific, MP Biomedicals, Sigma-Aldrich
D-Xylose, assay>99%	Sigma-Aldrich	X1500	CAS 58-86-6. Could use other brands. Multiple suppliers: e.g., Acros Organics, Fisher Scientific, MP Biomedicals, Sigma-Aldrich
96-well, flat bottom plates	Becton Dickinson Falcon	351172	multiple suppliers: e.g., Thermo-Fisher, VWR, Daigger
Wypall L40 Wiper	Kimberly-Clark		towel in microplate boxes to absorb water for humidification; multiple suppliers e.g., Thermo-Fisher, uline, Daigger
Corning graduated pyrex flask, 125 ml, narrow opening (stopper #5)	Corning Life Science Glass	4980-125	multiple suppliers: e.g., Thermo-Fisher, VWR, Daigger
Innova 42R shaker/incubator, 2.5 cm (1") rotation	New Brunswick Scientific (1-800-631-5417)	M1335-0016	multiple suppliers: e.g., Eppendorf, Thermo-Fisher. Other shaker/incubators with a 2.5 cm (1") throw could be used.
Duetz Cover clamp for 4 deep well MTP plates	Applikon Biotechnology	Z365001700	applikon-biotechnology.com (U.S.), 1-650-578-1396
Duetz System sandwich cover for 96 deep well plates	Applikon Biotechnology	Z365001296	applikon-biotechnology.com (U.S.), 1-650-578-1396
Duetz System silicone seal (0.8 mm black low evap) for 96 deep well plate cover	Applikon Biotechnology	V0W1040027	applikon-biotechnology.com (U.S.), 1-650-578-1396
Blue microfiber layer for Duetz system sandwich cover	Applikon Biotechnology	V0W1040001	applikon-biotechnology.com (U.S.), 1-650-578-1396
96 well, 2 ml square well pyramid bottom plates, natural polypropylene	Applikon Biotechnology	ZC3DXP0240	applikon-biotechnology.com (U.S.), 1-650-578-1396
Bellco 32 mm silicon sponge plug closures, pk of 25 for 125 ml flasks	Bellco	1924-00032	Thomas Scientific, their Catalog number is 1203K27
Bellco Spinner Flask, 1968-Glass Dome, Sealable Flange Type, 100 ml working volume. This design no longer manufactured.	Bellco	1968-00100 (original Cat. No.)	Jacketed vessels have lower inlet & upper outlet ports for temp. control with circulating water bath. Vessels are 75 mm in outer diam and 200 mm in height. There are four side ports at ~45° angles and one top port. Port openings appropriate size for size 0 neoprene stoppers (21-22 mm inner diameters on ports).
Mathis Labomat IR Dryer Oven	MathisAg	Typ-Nbr BFA12 215307	Werner Mathis U.S.A. Inc. usa@mathisag.com, 704-786-6157
Dual Channel Biochemistry Analyzer	YSI Life Sciences	2900D-UP	www.yxi.com, robotic system for rapid sugars assay in 96-well microplate format
PowerWave XS Microplate Spectrophotometer	Bio-Tek Instruments, Inc	MQX200R	<a href="http://www.biotek.com">www.biotek.com</a>