

Materials List for:

Automated Robotic Liquid Handling Assembly of Modular DNA Devices

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Materials

Name	Company	Catalog Number	Comments
Hardware / Software			
Freedom EVO 150 Liquid Handling Robot	Tecan		Custom liquid handler fitted with an 8-channel pipetting arm http://lifesciences.tecan.com/products/liquid_handling_and_robotics/freedom_evo
Freedom EVOware Standard (Version 2.4 Service Pack 2)	Tecan		Software used to control the Freedom EVO 150 liquid handler http://lifesciences.tecan.com/products/software/freedom_eware
Echo 550	Labcyte		Acoustic Liquid Dispenser http://www.labcyte.com/products/liquidhandling/echo-550-liquid-handler
Sorvall Legend RT	Sorvall		Large benchtop swing-bucket centrifuge
MasterCycler Pro	Eppendorf	950040015	Thermocycler with 96-well heat block https://online-shop.eppendorf.us/US-en/PCR-44553/Cyclers-44554/Mastercycler-pro-PF-5193.html
ECHOTHERM Chilling/Heating Dry Bath	Torrey Pines Scientific		Heating/Chilling block for EVO 150 deck https://www.torreypinesscientific.com/products/chilling-and-heating-dry-baths/echotherm-ric20-series-remote-controlled-chillingheating-dr
Tabletop Microcentrifuge 5418	Eppendorf	5418000017	Standard 18-well microcentrifuge https://online-shop.eppendorf.com/OC-en/Centrifugation-44533/Centrifuges-44534/Centrifuges-5418--5418R-PF-9257.html
Name	Company	Catalog Number	Comments
Resources			
mocloassembly.com	Lattice Automation		Web-tool for combinatorial DNA assembly mocloassembly.com
CIDAR MoClo Parts Kit	AddGene	1000000059	Kit of bacterial glycerol stocks for all DNA parts used in this study

			https://www.addgene.org/cloning/moclo/densmore/
CIDAR ICE Registry	CIDAR Lab		Registry of plasmid DNA maps https://ice.cidarlab.org/folders/8 https://synbiohub.programmingbiology.org/public/bubdc_ice/bubdc_ice_folder_8/current
Name	Company	Catalog Number	Comments
Labware			
50 µL Conductive Tips	Tecan	30 057 818	Sterile 50 µL conductive tips for Tecan liquid handler http://lifesciences.tecan.com/products/consumables/disposable_tips/liquid_handling_disposable_tips
2 mL Deep 96-well Culture Plates	USA Scinetific	5678-0285	Bacterial culture plates used for culturing of large numbers of samples http://www.thermoscientific.com/en/product/nunc-1-3-2-0ml-deepwell-plates-shared-wall-technology.html
1.5 mL Microcentrifuge Tubes	USA Scinetific	1615-5599	Disposable microcentrifuge tubes http://www.usascientific.com/Seal-Rite-1.5-ml-tube-colors.aspx
Breathe Easier sealing membrane	Sigma-Aldrich	Z763624-100EA	Breathable sealing membrane for bacterial culture plates http://www.sigmaaldrich.com/catalog/product/sigma/z763624?lang=en&region=US
Full-Skirted, Low-Profile, 96-Well PCR Plates	GeneMate	T-3183-2	PCR plates used for all steps https://www.bioexpress.com/store/catalog/product.jsp?catalog_number=T-3183-R
Alluminum Sealing Foil for PCR Plates	GeneMate	T-2451-1	Alluminum seals for PCR plate storage https://www.bioexpress.com/store/catalog/product.jsp?catalog_number=T-2451-1
Polyolefin Sealing Film for PCR Plates	GeneMate	T-2450-1	Plastic seals for PCR plates during cycling https://www.bioexpress.com/store/catalog/product.jsp?catalog_number=T-2450-1
PCR Cooler	Eppendorf	22510525	96-well cold block https://online-shop.eppendorf.us/US-en/Temperature-Control-and-Mixing-44518/Accessories-44520/PCR-Cooler-PF-55940.html
Name	Company	Catalog Number	Comments
Reagents			
GenCatch Plasmid DNA Mini-Prep Kit	Epoch Life Sciences	2160250	Plasmid DNA purification kit http://www.epochlifescience.com/Product/PurificationKit/dna_mini.aspx
T4 DNA Ligase (HC)	Promega	M1794	High concentration T4 DNA Ligase https://www.promega.com/products/cloning-and-dna-markers/molecular-biology-enzymes-and-reagents/t4-dna-ligase/?catNum=M1794

BbsI Restriction Enzyme	New England Biolabs	R0539L	BbsI enzyme at 10,000 units/ml https://www.neb.com/products/r0539-bbsi
BsaI Restriction Enzyme	New England Biolabs	R0535L	BsaI enzyme at 10,000 units/ml https://www.neb.com/products/r3535-bsai-hf
T4 DNA Ligase Buffer Pack	Promega	C1263	10x T4 DNA ligase buffer https://www.promega.com/products/cloning-and-dna-markers/cloning-tools-and-competent-cells/t4-dna-ligase/
Isopropyl-β-D-thiogalactopyranoside (IPTG)	Zymo Research	I1001-25	0.5M IPTG Solution http://www.zymoresearch.com/buffers-solutions/chemicals/isopropyl-ss-d-thiogalactopyranoside-iptg
5-bromo-4-chloro-3-indolyl β-D-galactopyranoside (X-GAL)	Zymo Research	X1001-25	20 mg/ml X-GAL solution http://www.zymoresearch.com/buffers-solutions/chemicals/5-bromo-4-chloro-3-indolyl-ss-d-galactopyranoside-x-gal
Kanamycin Sulfate	Zymo Research	A1003-25	35 mg/ml Kanamycin solution http://www.zymoresearch.com/buffers-solutions/antibiotics/kanamycin-sulfate
Carbenicillin (Disodium Salt)	Fisher	BP26481	1 g Carbenicillin (Ampicillin analog) https://www.fishersci.com/shop/products/carbenicillin-disodium-salt-fisher-bioreagents-3/p-25005#?keyword=carbenicillin
SOC Broth Media	Teknova	S0225	Powder media used to make SOC broth http://www.teknova.com/SOC-BROTH-MEDIA-p/s0225.htm
LB Broth (Lennox) Media	Sigma-Aldrich	L3022-1KG	Powder media used to make LB broth http://www.sigmaaldrich.com/catalog/product/sigma/l3022?lang=en&region=US
LB Broth with agar (Lennox) Media	Sigma-Aldrich	L2897-1KG	LB with agar mix used for making solid media plates http://www.sigmaaldrich.com/catalog/product/sigma/l2897?lang=en&region=US
Alpha-Select Gold Efficiency Competent Cells	Bioline	BIO-85027	High efficiency chemically competent E. coli cells http://www.bioline.com/us/alpha-select-gold-efficiency.html
Name	Company	Catalog Number	Comments
Primers			
Primer VF			5'-TGCCACCTGACGTCTAAGAA-3' Primers used for Sanger sequencing and colony PCRs
Primer VR			5'-ATTACCGCCTTTGAGTGAGC-3' Primers used for Sanger sequencing and colony PCRs