

Supplementary information for From Design to Practice: A Comprehensive Tutorial for the Rapid Multiplex Engineering of *Escherichia coli* Using Antibiotic Resistance Markers

Shubhika Munot¹, Shuai Li², Jennifer Hennigan², Eirik A. Moreb¹, Michael D. Lynch^{1, 2} and Romel Menacho-Melgar^{1, 3, *}

¹Department of Biomedical Engineering, Duke University, Durham, NC, USA

²Department of Chemistry, Duke University, Durham, NC, USA

³Roke Biotechnologies, Durham, NC, USA

*For correspondence: menachor@rokebio.com

Table S1. Antibiotic cassette DNA sequences

#	Antibiotic	Sequence (includes promoter)
1	Zeocin	ttgacaattaatcatcgccatagatatcgccatagataatacgaactcactataggaggccatcatggccaagttgaccag tgccgttccggtgctcaccgcgcgcgacgtcgccggagcggtcagttctggaccgaccggctcgggttctcccggaac ttcgtggaggacgacttcgcccgtgtggtccgggacgacgtgacctgttcatcagcgccgtccaggaccaggtggtgc cggacaacacctggcctgggtgtggtgctgcggcctggacgagctgtacccgagtggtcggaggctgtgtccacga acttccgggacgctccgggcccagtgaccgagatcgccgagcagccgtgggggcccggagtgccctgcgcga cccggccggcgaactcgctgcactttgtggcagaggagcaggactga
2	Blasticidin	ccgtgttgacaattaatcatcgccatagatatcgccatagataatacgaaggtgaggaactaaaccatggccaagcct ttgtctcaagaagaatccacctcattgaagagcaacggctacaatcaacagcatcccatctctgaagactacagcgtc gccagcgcagctctcttagcgcagccgcgcactctcactggtgtcaatgtatattactgggggaccttggtcagaact cgtggtgctgggactgctgctgctgcgcgcagctggcaacctgactgtatcgtcgcgacgtggaaatgagaacaggggc atcttgagccccctgcggacggtgccgacaggtgcttctcgtatcgcactcctgggatcaagccatagtgaaaggacagtat ggacagccgacggcagttgggattcgtgaattgctgccctctggttatgtgtggaggggctaa
3	Apramycin	acgtgttgacaattaatcatcgccatagatatcgccatagataatacgaaggtgaggaactaaaccatgtcatcagcg gtggagtgcgaatgtcgtgcaatacgaatggcgaaaagccgagctcatcggtcagcttctcaaccttgggggttacccccgg cgggtgtgctgctggtccacagctccttccgtagcgtccggccccctcgaagatggggccacttgactgacgagccctgc gtgctgcgctgggtccgggaggacgctcgtcatgcctcgtggtcaggtctggacgacgagccgttcgatcctgccac gtcggccgttacaccggaccttggagttgtctctgacacattctggcgctgccaaatgtaaagcgcagcggccatccattt gccttggcgagcggggccacaggcagagcagatcatctgatccattggccctggccacctcactgcctgcaagccc ggtcgcccgtgtccatgaactcgtggcaggtacttctcctcggcgtgggacacgacgtccaacacgacgctgcatttg ccgagttgatggcaaggttccctatgggggtgccgagacactgaccattctcaggatggcaagttggtacgctcgatt atctcgagaatgaccactgctgtgagcgttctccttggcggacaggtggctcaaggagaaagaccccttcagaaggaagg ccagtcggtcatgcttctgctggtgatccgctcccgacattgtggcgacagccctgggtcaactggggccgagatccg ttgatcttctcgtacccagaggcggtgatgcgaagaatcgatgccgctcgcagctcgccagctgattggctga
4	Puromycin	ttgtttatttttctaaatacattcaaatatgtatccgctcatgagacaataaccttgataaatgcttcaataattgaaaaagga agagtatgactgaatacaagccacgggtacgcttggcgacgcgcgacgaggttccccgcgctgttctgacattagctgcg gccttgcagattaccagcgacgcgacatacgtcgtatccggaccgacatacagcgtgtcacagaattgcaggaaact ttcttaactcgcgtgggcttgacatcggaaggtctgggtggctgacgatggcgtcagtggtgtgttgaccactccg gagagtgtagaggctggtcagtggtcgcgaaattggtcctcgtatggccgaattaagtggagtgctgtggcagcccaa caacaaatggaagggttcttgcgccccaccgtccgaaagaacccgctggttcttccaccgttgagtaagccag atcaccaggggaagggtttagatctgcccgtgtttaccaggtgtggaggcagcagaacgtgcgggaggtccggccttc cttgagacgtcggcgccgcgcaatttaccgttttacgaacgttggattaccgttacggcgacgtggaggtgccggag ggacccccgtacttgggtatgactcgtaaacggggagcctga

2

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11 Ampicillin	tgatcggcacgtaagagggtccaactttaccataatgaataaagatcactaccggcgctatttttgagttatcgagatttca ggagctaagggaagctaaaatgagtattcaacatttccgtgctgcccatttccctttttgctggcattttgcttctgttttgctc accagaacgctggtgaaagttaaagatgctgaagatcagttgggtgcacgagtggttaccgaactggatcacaac agcggtaagatccttgagagttacgccccgaagacgtttccaatgatgagcattttaaagtctgtatgtggcgggt attatcccgtattgacccgggaagagcaactcggcgccgacatactattctcagaatgacttgggtgagttactacca gtcacagaaaagcatctcacggtgagtgacagtaagagaattatgcagtgctgccataacctgagtgataacactgc ggccaacttacttctgcaacgatcgaggaccgaaggagctaaccgctttttgcacaaatgggggatcatgtaactcg ccttgatcgttgggaaccggagctgaatgaagccataccaaacgacgagcgtgacaccacgatgctgtagcaatggca acaacgttgcgcaactattactggcgaactacttacttagcttcccggcaacaattaatagactggatggagggcgata aagttgcagatcattctgcgctcggccctcccgctggctgtttattgtgataaatctggagccggtgagcgtgggtc tcgcggtatcattgcagcactggggccagatggtgaagccctcccgcatcgtagtattacacagcggggagtcaggcaa ctatggatgaacgaaatagacagatcgctgagataggtgcctcactgattaagcattggttaa
12 Hygromycin	tgttgacaattaatcatcgccatagtatatcgccatagtataatagcagaaggtgaggaactaaacatgaaaaaaccagaa ttaacggccacgctcggttgagaattccttatcgagaaattgactctgtatcagacttgatgcagttgtcagaagcgagga aagccgcgcttttctgctgctgctggggacgtggctacgtacttgcgttaactcctgcgcagatgggttctacaagat cgtacgtataccgccattttgctgacgacgttacctatccggagggttttgacatcggggaatttccgaatcgcttac atactgtatttctgcgcgcgcaagcgctacgttgcaggacttacgtgaacagagctgctcgtcagtccttcagccgt cgcagaagctatggatgcaatcgccgctgctgatttatccaaaccttggatttggccatttggcccgcaaggatcgg acagtatacaactgtggcgacttattctgcgctatttgcggacctatgtgtaccactggcagacggtgaatggacgatac ggtctctgcttgcgttggccaagcgtagatgagtgatgctgtggccgaggactgtccagaagtcgccatctgtfacat gcggacttgggagtaataatgtttgacagacaacggccgcataccgctgattgattggagcgaagcgatgttcggt gattcccgatcgaagtcgcaatattttttggcgtccatgggtggcctgtatggagcagaaactgttatttcgagcgc cgccaccggagctgctgggctcaccgcttgcgtgcttcatcgtcgcacgcttggaccagtgtaccagagcctg gtagatgtaatttgatgacgcgctggggcccaaggcggtgacgacgcaatgcttgcgtcgcgacggaacggtcgg ccgcacacagattgcacgtcgtcggcggtgttggactgacgctgtgtagagggtgtagctgactcgtgtaatcgtcgc ccctagtacacgctcctgctgcaaaagagtaa
13 Trimethoprim	gttgacaattaatcatcgccatagtatatcgccatagtataatagcactactataggaggccatcatgggtcaaaagtagc gatgaagccaacgctcccgttcaggggcagtttgcgttccctgagtgccacctttgcttaggggatcgcgtacgcaag aaatctggtgccgttggcagggtcaagtcgtcgttggattgacaaaactcactcctgaaggctatgcggtcagtc gaatccccaccaggctcagtgcaatttatcctgtgctgcactgaacgtgtggcctaa
14 Nourseothricin	gcgttgacaattaatcatcgccatagtatatcgccatagtataatagcactactataggaggccatcatgacaacgttgg atgacacagcctatcgttaccgtacttccgttccagggtgacgccgaagcattgaagcattgacggatcgttcacaactga tacggttttctgttaccgcaacaggtgacggcttacttgcgcgaggtccccgtggaccacccctgactaaggtcttcc ctgacgacgagagtgatgacgaatcgacgttgcgaagatggagatccagattcgcgtacttctgtgacacaggaga tgatgtgacttctggtatttctgtatcttactctgggtggaaccgtctgtgaccgttgaagacattgaagtgcaccc gagcaccgtggccaggtgttggcgctgcttattgggacttgcaaccgaattcgcgcgctgacggcgctgggacact gtggttggaggttacgaatgttaatcgcccgcaatccacgcataccgccgatgggtttactttatgtgttggatagacag cgctgtacgacggcaccgcatccgatggggaacaggccttatatatgctgatgccctgtccttaa
15 Tellurite	atgatcggcacgtaagagggtccaactttaccataatgaataaagatcactaccggcgctatttttgagttatcgagatttc aggagctaagggaagctaaaatggaagaacaaagcgtgaacatggcgcgattgaagggggaggttttcccgcctcttc gcgtgcggcgacgattggcgagtgacggggccggcatcgacggggcggtattccctcaacgagctgtcgaatctgatg gagcacggcgagttgcccgcgtggccgacaaaatcagccagatcgtggcgaagctggccgacggcgacccccgca agatcgcggaaaagcctacgtgttcgagaagatgcttggccgtgaggttgaacgccaggtgaggtatcaggtcggccg caagacgctcgaccagttgctggacgaagccgagggcgtagcgacgcgctgcccgacaggttgcgcgcttggatg acatgtcaatacgcagtagggcgaggtagaccggctcagagcctacattcaagccggcgaggttcttgacgaga accccgaggccggcgccgaagggcggtgacgagttcgacaagccgcgcaacgcttcgcgcgcaagctcgc caacctggcaacctcatggcgctccatgaaatgagcgtcactcagatgaagctcagcggggcgagccgtggacatg ctggaccgttctctgaaacggcgatccgtctgttggcgtcgcacacccctcgcctcattcaccaccaagaa catgaatccggcaatggtcggcgaggcgccaaagctcaccaggcgctcatgaggagcctttcgagagcctggaagg catcaaccaataacacgggggagaaccctatgaacgcactgaaaacgacgcacgacgccaagccccctatcgtcgc ttcgacatgaccccggaacctgcgcgagctgggttgcaggaaagcgacgtccgggaagtccatgcgtcgcgag cgatcgaggtcgagtcggcagaccgttcccaggttgcggcgacgtggccgagcacagctcccgtacgcccgat agcctgctggaccaggtgcgaacagcgacgtgacgaagcagggcgagaaactgaccaggtgtgccaagggccg ttccctgaacgtcggccctttgtccgacaacgttcccgcctgcccctgattggcccgtgatcaccgcttccgcgtccgt tcgacgggcttcatggcgcttcgacacgaccgcgagcagatcgaacacctgggtcagcgaagtgcagaccaccag caaggcatcgcgcagcgcaatgctcgtcgcgagaaatgttcgagccgtgcccggagggaacaccgcttctggcgtcc acatcggcgccggcaaggtccgcttgcgagctgcgcgagcaggccgaggtctgcgcgcaatgtcgggaacgac

