Table S4.2: PURE protein DNA linear template sequences

PURE protein	Linear template DNA sequence
AlaRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGGATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACATatgagaggatcgcatcaccatcaccatcacggatccgcatgcgatgacgatgacaaaagcaacagcaccgctgagatccgtcaggcgtttctcgacttttccatagtaagggacatcaggtagttgccagcagctccctggtaccccataacgacccaactttgttgtttaccaacgccgggatgaaccagttcaaggatgtgttccttgggctcgacaagcgtaattattcccgcgctaccacttcccaacgctgcgtgcgtgcgggtggtaaacacaacgacctggaaaacgtcggttacaccgcgcgtcaccataccttcttcgaaatgctgggcaacttcagcttcggcgactatttcaaacacgatgccattcagtttgcatgggaactgctgaccagcgaaaaatggtttgccctgccgaaagagcgtctgtgggttaccgtctatgaaagcgacgacgaagcctacgaaatctgggaaaaagaagtagggatcccgcgcgaacgtattattcgcatcggccgataacaaaggtgcgccatacgcatctgacaacttctggcagatgggtgacactggtccgtgcggcccgtgcaccgaaatcttctacgatcacggcgaccacatttggggggggccctccgggaagcccggaagaagacggcgaccgctacattgagatctggaacatcgtcttcatgcagttcaaccgccaggccgatggcacgatggaaccgctgccgaagccgtctgtagataccggtatgggtctggagcgtattgctgcggtgctgcaacacgttaactctaactatgacatcgacctgttccgcacgctgatccaggcggtagcgaaagtcactggcgcaaccgatctgagcaataaatcgctgcgcgtaatcgctgaccacattcgttcttgtgcgttcctaatcgcggatggcgtaatgccgtccaatgaaaaccgtggttatgtactgcgtcgtatcattcgtcgcgcagtgcgtcacggtaatatgctcggcgcgaaagaaaccttcttctacaaactggttggtccgctgatcgacgttatgggctctgcgggtgaagacctgaaacgccagcaggcgcaggttgagcaggtgctgaagactgaagaagagcagtttgctcgtactctggagcgcggtctggcgttgctggatgaagagctggcaaaacttctggtgatacgctggatggtgaaactgctttccgtctgtacgacacctatggcttcccggttgacctgacggctgatgtttgtcgtgagcgcaacatcaaagttgacgaagctggttttgaagctgcaatggaagagcagcgtcgtcgcgcgcgcgaagccagcggctttggtgccgattacaacgcaatgatccgtgttgacagtgcatctgaatttaaaggctatgaccatctggaactgaacggcaaagtgactgcgctgtttgttgatggtaaagcggttgatgccatcaatgcaggccaggaagctgtggtcgtgctggatcaaacgccattctatgcggaatccggcggtcaggttggcgataaaggcgaactgaaaggcgctaacttctctcctttgcggtggaagatacgcagaaatacggccaggcgattggtcacatcggtaaacttgctgcgggttctctgaaagtgggcgacgcggtgcaggctgatgttgatgaggctcgtcgcgcccgtattcgtctgaatcactccgcaacgcacctgatgcacgctgcgctgcgccaggttctgggtactcatgtatcgcagaaaggttcactggttaacgacaaggtgctgcgcttcgacttctcacacaacgaagcgatgaaaccagaagagattcgtgcggtcgaagacctggtgaacacacagattcgtcgcaatttgccgatcgaaaccaacatcatggatctcgaagcggcgaaagcgaaaggtgcgatggcgctgttcggcgagaagtatgatgagcgcgtacgcgtgctgagcatgggcgatttctctaccgagttgtgtggcggtactcacgccagccgcactggtgatattggtctgttccgcatcatctctgaatcgggtactgctgcaggcgttcgtcgtatcgaagcggtaaccggagaaggtgctatcgccaccgttcatgcagacagcgatcgcttaagcgaagtcgcgcatctgctgaaaggcgatagcaataatctggctgataaagtgcgctcagtactggaacgtacgcgtcagctggaaaaaagagttacaacagcttaaagaacaagctgccgcacaggagagcgcaaatctttccagtaaggcaattgatgttaatggtgttaagctgttggttagcgagcttagcggtgttgagccgaaaatgttgcgtaccatggttgacgatttaaaaaaatcagctgggggtcgacaattatcgtgctggcaacggtagtcgaaggtaaggtttctctgattgcaggcgtatctaaggacgtcacagatcgtgtgaaagcaggggaactgattggtatggtcgctcagcaggtgggcggcaagggtggtgacgtcctgacatggcgcaagccggtggtacggatgctgcggccttacctgcagcgttagccagtgtgaaaggctgggtcagcgcgaaattgcaataaGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
ArgRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGGATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACATatgggccatcatcatcatcatcatcatcatcacagcagcggccatatcgaaggtcgtcatatgaatattcaggctcttctctcagaaaaagtccgtcaggccatgattgcggcaggcgcgcctgcggattgcgaaccgcaggttcgtcagtcagcaaaagttcagttcggcgactatcaggctaacggcatgatggcagttgctaaaaaactgggtatggcaccgcgacaattagcagagcaggtgctgactcatctggatcttaacggtatcgccagcaaagttgagatcgccggtccaggctttatcaacattttccttgatccggcattc

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AsnRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgagaggatcgcatcaccatcaccatcacggatccatgagcgttgtgcctgtagccgacgtactccagggccgtgtagcc gttgacagcgaagtcaccgtgcgcggatgggtacgtacccgccgagattcaaaagctggcatctccttcctcgccgtttatgac ggttcctgctttgatcctgtacaggctgtcatcaataattctctgcccaattacaatgaagacgtcctgcgtctgaccaccggctgc tcggtcattgtgacgggtaaagtcgtggcgtcgccgggccaggggcaacaatttgaaattcaggccagcaaggttgaagttgc tggttgggttgaagatccagacacttacccgatggcggcaaaacgccacagcattgagtatctgcgtgaagtcgctcacctgc gtccgcgcacaaacctgattggtgccgtcgcgcgcgttcgccatacgctggcgcaggcgctgcatcgcttctttaacgagcag ggattcttctgggtttcaacgccactgattaccgcatctgataccgaaggtgcaggcgaaatgttccgcgtttctacgctggatct ggaaaacctgccgcgtaacgatcagggcaaagtggatttcgacaaagacttctttggtaaagagtctttcctgaccgtatctggc cagttgaacggcgaaacctacgcttgcgcattgtccaaaatttataccttcggcccgactttccgtgctgaaaactccaacacca gccgtcacctggcggaattctggatgctggagccggaagtggcgtttgctaacctgaacgatattgcgggtctggctgaagcc atgctgaaatatgtcttcaaagcggttctcgaagaacgcgctgacgacatgaaattcttcgctgaacgcgtagataaagatgcc gtttcacgtctggaacgcttcattgaagccgattttgcgcaggtggattataccgacgcagtgaccattctcgaaaactgcggca ggaagtttgaaaacccggtttactggggagtcgatctctcttctgagcatgagcgttatctggcggaagaacactttaaagcacc ggtagtggttaaaaactatccgaaagatattaaagcgttctatatgcgcccttaacgaagacggtaaaaccgttgcggctatggac gttctggctccgggcatcggtgagatcattggtggctcccagcgtgaagaacgtctggacgtgctggacgagcgtatgctgga aatgggcctgaataaagaagattactggtggtatcgcgatctgcgtcgctacggtactgttccgcattcaggtttcggtcttggttt tgaacgtctgattgcttacgtaactggcgtgcaaaacgtacgtgatgtgattccgttcccacgtactccgcgtaacgccagcttct aaGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCAC CGCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGG GGTTTTTT3'
AspRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgcgtacagaatattgtggacagctccgtttgtcccacgtggggcagcaggtgactctgtgtggttgggtcaaccgtcgtcg tgatcttggtagcctgatcttcatcgatatgcgcgaccgcgaaggtatcgtgcaggtattttttcgatccggatcgtgcggacgcgt taaagctggcctctgaactgcgtaatgagttctgcattcaggtcacgggcaccgtacgtgcgcgtgacgaaaaaaatattaacc

	gcgatatggcgaccggcgaaatcgaagtgctggcgtcctcgctgactatcatcaaccgcgcagatgttctgccgcttgactcta accacgtcaacaccgaagaagcgcgtctgaaataccgctacctcgacctgcgtcgtccggaaatggctcagcgcctgaaaac ccgcgctaaaatcaccagcctggtgcgccgtttatggatgaccacggcttcctcgacatcgaaactccgatgctgaccaaag ccacgccggaaggcgcgcgtgactacctggtgccttctcgtgtgcacaaaggtaaattctacgcactgccgcaatccccgca gttgttcaaacagctgctgatgatgtccggttttgaccgttactatcagatcgttaaatgcttccgtgacgaagacctgcgtgctga ccgtcagcctgaatttactcagatcgatgtggaaacttctttcatgaccgcgccgcaagtgcgtgaagtgatggaagcgctggt gcgtcatctgtggctggaagtgaagggtgtggatctgggcgatttcccggtaatgacctttgcggaagcagaacgccgttatg gttctgataaaccggatctgcgtaacccgatggaactgactgacgttgctgatctgctgaaatctgttgagtttgctgtatttgcag gtccggcgaacgatccgaaaggtcgcgtagcggctctgcgcgttccgggcggcgcatcgctgacccgtaagcagatcgac gaatacggtaacttcgttaaaatctacggcgcgaaaggtctggcttacatcaaagttaacgaacgcgcgaaaggtctggaagg tatcaacagcccgggtagcgaagttccttaatgcagaaatcatcgaagacatcctggatcgtactgccgcgcaagatggcgatat gattttcttcggtgccgacaacaagaaaattgttgccgacgcgatgggtgcactgcgcctgaaagtgggtaaagaccttggtct gaccgacgaaagcaaatgggcaccgctgtgggttatcgacttcccgatgtttgaagacgacggtgaaggcggcctgacggc aatgcaccatccgttcacctcaccgaaagatatgacggctgcagaactgaaagctgcaccggaaaatgcggtggcgaacgct tacgatatggtcatcaatggttacgaagtgggcggtggttcagtacgtatccataatggtgatatgcagcagacggtgtttggtat tctgggtatcaacgaagaggaacagcgcgagaaattcggcttcctgctcgacgctctgaaatacggtactccgccgcacgca ggtctggcattcggtcttgaccgtctgaccatgctgctgaccggcaccgacaatatccgtgacgttatcgccttcccgaaaacc acggcggcagcgtgtctgatgactgaagcaccgagcctttgctaacccgactgcactggctgagctgagcattcaggttgtgaa gaaggctgagaataacctcgagcaccaccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGA AAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCC TTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
CysRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgctaaaaatcttcaatactctgacacgccaaaaagaggaatttaagcctattcacgccggggaagtcggcatgtacgtgtg tggaatcaccgtttacgatctctgtcatatcggtcacggccgtacctttgttgcttttgacgtggttgcgcgctatctgcgtttcctcg gctataaactgaagtatgtgcgcaacattaccgatatcgacgacaaaatcatcaaacgcgccaatgaaaatggcgaaagctttg tggcgatggtggatcgcatgatcgccgaaatgcacaaagattttgatgctttgaacattctgcgcccggatatggagccgcgcg cgacgcaccatatcgcagaaattattgaactcactgaacaactgatcgccaaaggtcacgcttatgtggcggacaacggcgac gtgatgttcgacgtcccgaccgatccaacttatggcgtgctgtcgcgtcaggatctcgaccagctgcaggcaggcgcgcgcg ttgacgtggtcgacgacaaacgcaacccaatggacttcgttctgtgtggaagatgtcgaaagagggcgaaccgagctggccgtc tccgtggggcgcgggtcgtcctggctggcacattgaatgttcggcaatgaactgcaagcagctgggtaaccactttgatatcca cggcggcggttcagacctgatgttcccgcaccacgaaaacgaaatcgcgcagtccacctgtgcccatgatggtcagtatgtga actactggatgcactcggggatggtgatggttgaccgcgagaagatgtccaaatcgctgggtaacttctttaccgtgcgcgatg tgctgaaatactacgacgcgggaaaccgtgcgttacttcctgatgtcgggccactatcgcagccagttgaactacagcgaagag aacctgaagcaggcgcgtgcggcgctggagcgtctctacactgcgctgcgcggcacagataaaaccgttgcgcctgccggt ggcgaagcgtttgaagcgcgctttattgaagcgatggacgacgatttcaacaccccggaagcctattccgtactgtttgatatgg cgcgtgaagtaaaccgtctgaaagcagaagatatggcagcggcgaatgcaatggcatctcacctgcgtaaactttccgctgta ttgggcctgctggagcaagaaccggaagcgttcctgcaaagcggcgcgcaggcagacgacagcgaagtggctgagattga agcgttaattcaacagcgtctggatgcccgtaaagcgaaagactgggcggcggcggatgcggcgcgtgatcgtcttaacga gatggggatcgtgctggaagatggcccgcaagggaccacctggcgtcgtaagctcgagcaccaccaccaccaccactgaG ATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCG CTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGG TTTTTT3'
GlnRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgagtgaggcagaagcccgcccgactaactttatccgtcagatcatcgatgaagatctggccagtggtaagcacaccaca gtacacacccgtttcccgccggagccgaatggctatctgcatattggccatgcgaaatctatctgcctgaacttcgggatcgcc

	caggactataaaggccagtgcaacctgcgtttcgacgacactaacccggtaaaagaagatatcgagtatgttgagtcgatcaa aaacgacgtagagtggttaggttttcactggtctggtaacgtccgttactcctccgattattttgatcagctccacgcctatgcgat cgaactgatcaataaaggcctggcgtacgttgatgaactgacgccggaacagatccgcgaataccgcggcaccctgacgca accgggtaaaaacagcccgtaccgcgaccgcagcgttgaagagaacctggcgctgttcgaaaaaatgcgtgccggtggtttt gaagaaggtaaagcctgcctgcgtgcgaaatcgacatggcttcaccgtttatcgtgatgcgcgatccggtgctgtaccgtatt aaatttgctgaacaccaccagactggcaacaagtggtgcatctacccgatgtacgacttcacccactgcatcagcgatgccctg gaaggtattacgcactctctgtgtacgcttgagttccaggacaaccgtcgtctgtacgactgggtactggacaacatcacgattc ctgttcacccgcgccagtatgagttctcgcgcctgaatctggaatacaccgtgatgtccaagcgtaagttgaacctgctggtgac cgacaagcacgttgaaggctgggatgacccgcgtatgccgaccatttccggtctgcgtcgtcgtggttacactgcggcttctatt cgtgagttctgcaaacgcatcggcgtgaccaagcaggacaacaccattgagatggcgtcgctggaatcctgcatccgtgaag atctcaacgaaaatgcgccgcgcgcaatggcggttatcgatccggtgaaactggttatcgaaaactatcagggcgaaggcga aatggttaccatgccgaaccatccgaacaaaccggaaatgggcagccgtcaggtgccgtttagcggtgagatttggattgatc gcgccgatttccgcgaagaagctaacaagcagtacaaacgtctggtgctgggtaaagaagtgcgtctgcgtaatgcttatgtg attaaggcagaacgcgtcgagaaagatgccgaaggtaatatccaccaccatcttctgtacttatgacgccgataccttaagcaaa gatccggcagatggtcgtaaagtcaaaggtgttattcactgggtgagcgcggcacatgcgctgccggttgaaatccgtttgtat gaccgtctgttcagcgtgcctaacccaggtgctgcggatgatttcctgtcggtgattaacccggaatcgctggtgatcaaacag ggctttgctgaaccgtcgctgaaagatgcggttgcgggtaaagcattccagtttgagcgtgaaggttacttctgcctcgatagcc gccattctacggcggaaaaaccggtatttaaccgcaccgttgggctgcgtgatacctgggcgaaagtaggcgagctcgagca ccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTG GCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAAC GGGTCTTGAGGGGTTTTTT3'
GluRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgaaaatcaaaactcgcttcgcgccaagcccaacaggctatctgcacgttggcggcgcgcgtactgctctttactcctggct ttttgcacgtaaccacggcggtgagttcgtgctgcgtattgaagacaccgatcttgagcgttccacgccggaagctatcgaagc cattatggatggcatgaactggctgagcctggagtgggatgaaggtccgtactaccagaccaaacgttttgatcgctacaacgc ggtgatcgatcagatgctggaagagggcactgcttataaatgctattgctctaaagagcgcctggaagcgctgcgcgaagag caaatggcgaaaggtgagaagccgcgttatgacggtcgctgccgccacagccatgagcatcatgctgatgatgaaccgtgtg ttgtacgttttgctaacccgcaggaaggttctgttgttttttgacgatcagatccgtggtccgatcgagttcagcaaccaggaactg gacgatcttattatccgccgtaccgatggttccccaacctataacttctgtgtggttgtcgatgactgggatatggaaatcaccca cgttatccgtggcgaagaccatatcaacaacacgccacgccagatcaacattcttaaggccctgaaagcgccggtgccggttt acgcgcacgtttctatgatcaatggcgatgacggtaaaaaactgtccaaacgtcacggggcagtcagcgtaatgcagtatcgt gatgacggttatttgccagaagcactgctgaactatctggtgcgtctgggctggtcccacggcgatcaggaaatcttcactcgtg aagagatgatcaaatacttcactttgaatgccgtcagcaaatctgccagtgcgttcaacaccgacaagctgctgtggctgaacc atcactacattaacgcgctgccgccggagtatgttgctactcacttacagtggcacattgagcaggaaaaatatcgatacccgtaa cggcccgcagctggctgatctggtgaaactgctgggcgaacgctgcaagacgctgaaagagatggcacagagctgccgtta tttctacgaagattttgctgagttcgatgccgacgccgcgaaaaaacatctgcgtccggtagcgcgtcagccgctggaagtggt tcgtgacaaactggccgcgattactgactggaccgctgaaaacgttcatcacgctattcaggcgacggcggatgagctggaa gtgggtatgggtaaagttggtatgccgctgcgtgtcgccgtaaccggtgcggggcagtctccagcactggatgttaccgttcac gcaattggtaagacccgcagtatcgagcgtatcaacaaagcgctggattttattgctgaacgcgaaatcagcagctcgagca ccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTG GCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTAAAC GGGTCTTGAGGGGTTTTTT3'
GlyRSα	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA tatgcaaaagtttgataccaggaccttccagggcttgatcctgaccttacaggattactgggctcgccagggctgcaccattgtt caaccattggacatggaagtcggcgcgcgggaacctctcacccaatgacctgtctgcgcgagctggggccagaaccgatggcg

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IleRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgcaccaccaccaccacagtgactataaatcaaccctgaatttgccggaaacagggttcccgatgcgtggcgatctcg ccaagcgcgaacccggaatgctggcgcgttggactgatgatgatctgtacggcatcatccgtgcggctaaaaaaggcaaaaa aaccttcattctgcatgatggccctccttatgcgaatggcagcattcatattggtcactcggttaacaagattctgaaagacattatc gtgaagtccaaagggctttccggttatgactcgccgtatgtgcctggctgggactgccacggtctgccgatcgagctgaaagtc gagcaagaatacggtaagccgggtgagaaattcaccgccgccgagttccgcgccaagtgccgcgaatacgcggcgaccca ggttgacggtcaacgcaaagactttatccgtctgggcgtgctgggcgactggtcgcacccgtacctgaccatggacttcaaaa ctgaagccaacatcatccgcgcgctgggcaaaatcatcggcaacggtcacctgcacaaaggcgcgaagccagttcactggt gcgttgactgccgttctgcgcctggcggaagcggaagttgagtattacgacaaaacttctccgtccatcgacgttgctttccaggc agtcgatcaggatgcactgaaagcaaaatttgccgtaagcaacgttaacggcccaatctcgctggtaatctggaccaccacgc cgtggactctgcctgccaaccgcgcaatctctattgcaccagatttcgactatgcgctggtgcagatcgacggtcaggccgtga ttctggcgaaagatctggttgaaagcgtaatgcagcgtatcggcgtgaccgattacaccattctcggcacggtaaaaggtgcg gagcttgagctgctgcgcctttacccatccgtttatgggcttcgacgttccggcaatcctcggcgatcacgttaccctggatgccg gtaccggtgccgttcacaccgcgcctggccacggccccggacgactatgtgatcggtcagaaatacggcctggaaaccgcta acccggttggcccggacggcacttatctgccgggcacttatccgacgctggatggcgtgaacgtcttcaaagcgaacgacat cgtcgttgcgctgctgcaggaaaaaggcgcgctgctgcacgttgagaaaatgcagcacagctatccgtgctgctggcgtcac aaaacgccgatcatcttccgcgcgacgccgcagtggttcgtcagcatggatcagaaaggtctgcgtgcgcagtcactgaaag agatcaaaggcgtgcagtggatcccggactggggccaggcgcgtatcgagtcgatggttgctaaccgtcctgactggtgtatc tcccgtcagcgcacctggggtgtaccgatgtcactgttcgtgcacaaagacacggaagagctgcatccgcgtaccccttgaact gatggaagaagtggcaaaacgcgttgaagtcgatggcatccaggcgtggtgggatctcgatgcgaaagagatcctcggcga cgaagctgatcagtacgtgaaagtgccggacacattggatgtatggtttgactccggatctacccactcttctgttgttgacgtgc gtccggaatttgccggtcacgcagcggacatgtatctggaaggttctgaccaacaccgcggctggttcatgtcttccctaatgat ctccaccgcgatgaagggtaaagcgccgtatcgtcaggtactgacccacggctttaccgtggatggtcagggccgcaagatg tctaaatccatcggcaataccgtttcgccgcaggatgtgatgaacaaactgggcgcggatattctgcgtctgtgggtggcatca accgactacaccggtgaaatggccgtttctgacgagatcctgaaacgtgctgccgatagctatcgtcgtatccgtaacaccgcg cgcttcctgctggcaaacctgaacggttttgatccagcaaaagatatggtgaaaccggaagagatggtggtactggatcgctg ggccgtaggttgtgcgaaagcggcacaggaagacatcctcaaggcgtacgaagcatacgatttccacgaagtggtacagcg tctgatgcgcttctgctccgttgagatgggttccttctacctcgacatcatcaaagaccgtcagtacaccgccaaagcggacagt gtggcgcgtcgtagctgccagactgcgctatatcacatcgcagaagcgctggtgcgctggatggcaccaatcctctccttcac cgctgatgaagtgtggggctacctgccgggcgaacgtgaaaaatacgtcttcaccggtgagtggtacgaaggcctgtttggcc tggcagacagtgaagcgatgaacgatgcgttctgggacgagctgttgaaagtgcgtggcgaagtgaacaaagtcattgagca

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LeuRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgcaagagcaataccgcccggaagagatagaatccaaagtacagcttcattgggatgagaagcgcacatttgaagtaacc gaagacgagagcaaagagaagtattactgcctgtctatgcttccctatccttctggtcgactacacatgggccacgtacgtaact acaccatcggtgacgtgatcgcccgctaccagcgtatgctgggcaaaaacgtcctgcagccgatcggctgggacgcgtttgg tctgcctgcggaaggcgcggcggtgaaaaacaacaccgctccggcaccgtggacgtacgacaacatcgcgtatatgaaaaa ccagctcaaaatgctgggctttggttatgactggagccgcgagctggcaacctgtacgccggaatactaccgttgggaacaga aattcttcaccgagctgtataaaaaaggcctggtatataagaagacttctgcggtcaactggtgcccgaacgaccagaccgtac tggcgaacgaacaagttatcgacggctgctgctggcgctgcgataccaaagttgaacgtaaagagatcccgcagtggtttatc aaaatcactgcttacgctgacgagctgctcaacgatctggataaactggatcactggccagacaccgttaaaaccatgcagcgt aactggatcggtcgttccgaaggcgtggagatcaccttcaacgttaacgactatgacaacacgctgaccgtttacactacccgc ccggacacctttatgggttgtacctacctggcggtagctgcgggtcatccgctggcgcagaaagcggcggaaaataatcctga actggcggcctttattgacgaatgccgtaacaccaaagttgccgaagctgaaatggcgacgatggagaaaaaaggcgtcgat actggctttaaagcggttcacccattaacgggcgaagaaattcccgtttgggcagcaaacttcgtattgatggagtacggcacg ggcgcagttatggcggtaccggggcacgaccagcgcgactacgagtttgcctctaaatacggcctgaacatcaaaccggtta tcctggcagctgacggctctgagccagatctttctcagcaagccctgactgaaaaaggcgtgctgttcaactctggcgagttca acggtcttgaccatgaagcggccttcaacgccatcgccgataaactgactgcgatgggcgttggcgagcgtaaagtgaacta ccgcctgcgcgactgggggtgtttcccgtcagcgttactggggcgcgccgattccgatggtgacgctggaagacggtaccgta atgccgacccccggacgaccagctgccggtgatcctgccggaagatgtggtaatggacggcattaccagcccgattaaagca gatccggagtgggcgaaaactaccgttaacggtatgccagcactgcgtgaaaccgacactttcgacacctttatggagtcctcc tggtactatgcgcgctacacttgcccgcagtacaaagaaggtatgctggattccgaagcggctaactactggctgccggtgga tatctacattggtggtattgaacacgccattatgcacctgctctacttccgcttcttccacaaactgatgcgtgatgcaggcatggt gaactctgacgaaccagcgaaacagttgctgtgtcagggtatggtgctggcagatgccttctactatgttggcgaaaacggcg aacgtaactgggtttccccggttgatgctatcgttgaacgtgacgagaaaggccgtatcgtgaaagcgaaagatgcggcagg ccatgaactggtttataccggcatgagcaaaatgtccaagtcgaagaacaacggtatcgacccgcaggtgatggttgaacgtt acggcgcggacaccgttcgtctgtttatgatgtttgcttctccggctgatatgactctcgaatggcaggaatccggtgtggaagg ggctaaccgcttcctgaaacgtgtctggaaactggtttacgagcacacagcaaaaggtgatgttgcggcactgaacgttgatgc gctgactgaaaatcagaaagcgctgcgtcgcgatgtgcataaaacgatcgctaaagtgaccgatgatatcggccgtcgtcaga ccttcaacaccgcaattgcggcgattatggagctgatgaacaaactggcgaaagcaccaaccgatggcgagcaggatcgcg ctctgatgcaggaagcactgctggccgttgtccgtatgcttaacccgttcaccccgcacatctgcttcacgctgtggcaggaact gaaaggcgaaggcgatatcgacaacgcgccgtggccggttgctgacgaaaaagcgatggtggaagactccacgctggtcg tggtgcaggttaacggtaaagtccgtgccaaaatcaccgttccggtggacgcaacggaagaacaggttcgcgaacgtgctgg ccaggaacatctggtagcaaaatatcttgatggcgttactgtacgtaaagtgatttacgtaccaggtaaactcctcaatctggtcg ttggcctcgagcaccaccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGAAAGGAAG CTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGGGC CTCTAAACGGGTCTTGAGGGGTTTTTT3'
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	CCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAA CCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
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SerRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgctcgatcccaatctgctgcgtaatgagccagacgcagtcgctgaaaaactggcacgccggggctttaagctggatgtag ataagctgggcgctcttgaagagcgtcgtaaagtattgcaggtcaaaacggaaaacctgcaagcggagcgtaactcccgatc gaaatccattggccaggcgaaagcgcgcggggaagatatcgagcctttacgtctggaagtgaacaaactgggcgaagagct ggatgcagcaaaagccgagctggatgctttacaggctgaaattcgcgatatcgcgctgaccatccctaacctgcctgcagatg aagtgccggtaggtaaagacgaaaatgacaacgttgaagtcagccgctggggtaccccgcgtgagtttgactttgaagttcgt gaccacgtgacgctgggtgaaatgcactctggcctcgactttgcagctgcagttaagctgactggttcccgctttgtggtaatga aagggcagattgctcgcatgcaccgcgcactgtcgcagtttatgctggatctgcataccgaacagcatggctacagtgagaac tatgttccgtacctggttaaccaggacacgctgtacggtacgggtcaactgccgaaatttgctggcgatctgttccatactcgtcc gctggaagaagaagcagacaccagtaactatgcgctgatcccaacggcagaagttccgctgactaacctggtgcgcggtga aatcatcgatgaagatgatctgccaattaagatgaccgcccacaccccatgcttccgttctgaagccggttcatatggtcgtgac acccgtggtctgatccgtatgcaccagttcgacaaagttgaaatggtgcagatcgtgcgcccagaagactcaatggcggcgct ggaagagatgactggtcatgcagaaaaagtcctgcagttgctgggcctgccgtaccgtaaaatcatcctttgcactggcgacat gggctttggcgcttgcaaaacttacgacctggaagtatggatcccggcacagaacacctaccgtgagatctcttcctgctccaa cgtttgggatttccaggcacgtcgtatgcaggcacgttgccgcagcaagtcggacaagaaaacccgtctggttcataccctga acggttctggtctggctgttggtcgtacgctggttgcagtaatggaaaactatcagcaggctgatggtcgtattgaagtaccaga agttctgcgtccgtatatgaacggactggaatatattggcctcgagcaccaccaccaccaccactgaGATCCGGCTG CTAACAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAAT AACTAGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
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TrpRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgactaagcccatcgttttagtggcgcacagccctcaggtgaattgaccattggtaactacatgggtgcgctgcgtcagtg ggtaaacatgcaggatgactaccattgcatttactgtatcgttgaccaacacgcgatcaccgtgcgccaggatgcacagaagct gcgtaaagcgacgctggatacgctggccttgtatctggcttgtggtatcgatcctgagaaaagcaccattttgttcagtcccacg tgccggaacatgcacagtaggctgggcactgaactgctataacctacttcggcgaactgagtcgcatgacgcagtttaaagata aatctgcgcgttatgccgagaacatcaacgctggtctgtttgactatccggtgctgatggcagcggacatcctgctgtatcaaac taatctggtaccggtgggtgaagaccagaaacagcacctcgaactgagccgcgatattgcccagcgtttcaacgcgctgtatg gcgagatctttaaggtgccggagccgtttattccgaaatctggcgcgcgcgtaatgtcgctgctggagccgaccaagaagatg tccaagtctgacgataatcgcaataacgttatcggcctgctggaagatccgaaatcggtagtgaagaaaatcaaacgtgcggtc actgactccgacgagccgccggtagttcgctacgatgtgcagaacaaagcgggcgtttccaacctgttggatatcctttcagcg gtaacgggccagagcatcccagaactggaaaaacagttcgaaggcaagatgtatggtcatctgaaaggtgaagtggctgatg ccgtttccggtatgctgactgaattgcaggaacgctatcaccgtttccgcaacgatgaagccttcctgcaacaggtgatgaaag atggcgcggaaaaagccagcgcgcacgcttcccgtacgctaaaagcggtgtacgaagcgattggttttgtggcgaagcgtct cgagcaccaccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGA GTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGGGCCTCTA AACGGGTCTTGAGGGGTTTTTT3'
TyrRS	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatggcaagcagtaacttgattaaacaattgcaagagcggggggctggtagcccaggtgacggacgaggaagcgttagcaga gcgactggcgcaaggcccgatcgcgctctattgcggcttcgatcctaccgctgacagcttgcatttgggcatcttgttccattg ttatgcctgaaacgcttccagcaggcgggccacaagccggttgcgctggtaggcggcgcgacgggtctgattggcgacccg agcttcaaagctgccgagcgtaagctgaacaccgaagaaactgttcaggagtgggtggacaaaatccgtaagcaggttgccc cgttcctcgatttcgactgtggagaaaactctgctatcgcggcgaacaactatgactggttcggcaatatgaatgtgctgaccttc ctgcgcgatattggcaaacacttctccgttaaccagatgatcaacaaagaagcggttaagcagcgtctcaaccgtgaagatca ggggatttcgttcactgagttttcctacaacctgttgcagggttatgacttcgcctgtctgaacaaacagtacggtgtggtgctgca aattggtggttctgaccagtggggtaacatcacttctggtatcgacctgacccgtcgtctgcatcagaatcaggtgtttggcctga ccgttccgctgatcactaaagcagatggcaccaaatttggtaaaactgaaggcggcgcagtctggttggatccgaagaaaacc agcccgtacaaattctaccagttctggatcaacactgcggatgccgacgtttaccgcttcctgaagttcttcacctttatgagcatt gaagagatcaacgccctggaagaagaagataaaaacagcggtaaagcaccgcgcgcccagtatgtactggcggagcaggt gactcgtctggttcacggtgaagaaggtttacaggcggcaaaacgtattaccgaatgcctgttcagcggttctttgagtgcgctg agtgaagcggacttcgaacagctggcgcaggacggcgtaccgatggttgagatggaaaagggcgcagacctgatgcaggc actggtcgattctgaactgcaaccttcccgtggtcaggcacgtaaaactatcgcctccaatgccatcaccattaacggtgaaaaa cagtccgatcctgaatacttctttaaagaagaagatcgtctgtttggtcgtttttaccttactgcgtcgcggtaaaaagaattactgtc tgatttgctggaaactcgagcaccaccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGAAA GGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTT GGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
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EFTs	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatggctgaaattaccgcatccctggtaaaagagctgcgtgagcgtactggcgcaggcatgatggattgcaaaaaagcactg actgaagctaacggcgacatcgagctggcaatcgaaaacatgcgtaagtccggtgctattaaagcagcgaaaaaagcaggc aacgttgctgctgacggcgtgatcaaaaccaaaatcgacggcaactacggcatcattctggaagttaactgccagactgacttc gttgcaaaagacgctggtttccaggcgttcgcagacaaagttctggacgcagctgttgctggcaaaatcactgacgttgaagtt ctgaaagcacagttcgaagaagaacgtgttgcgctggtagcgaaaattggtgaaaacatcaacattcgccgcgttgctgcgct ggaaggcgacgttctgggttcttatcagcacggtgcgcgtatcggcgttctggttgctgctaaaggcgctgacgaagagctgg ttaaacacatcgctatgcacgttgctgcaagcaagccagaattcatcaaaccggaagacgtatccgctgaagtggtagaaaaa gaataccaggtacagctggatatcgcgatgcagtctggtaagccgaaagaaatcgcagagaaaatggttgaaggccgcatga agaaattcaccggcgaagtttctctgaccggtcagccgttcgttatggaaccaagcaaaactgttggtcagctgctgaaagagc ataacgctgaagtgactggcttcatccgcttcgaagtgggtgaaggcatcgagaaagttgagactgactttgcagcagaagttg ctgcgatgtccaagcagtctagatctcatcaccatcaccatcactaaGATCCGGCTGCTAACAAAGCCCG AAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCC CTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
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RF3	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgagaggatcgcatcaccatcaccatcacggatccgatgacgatgacaaaatgacgttgtctccttatttgcaagaggtggc gaagcgccgcacttttgccattatttctcacccggacgccggtaagactaccatcaccgagaaggtgctgctgttcggacagg ccattcagaccgccggtacagtaaaaaggccgtggttccaaccagcacgctaagtcggactggatggagatggaaaagcagc gtgggatctccattactacgtctgtgatgcagtttccgtatcacgattgcctggttaacctgctcgacaccccggggcacgaaga cttctcggaagatacctatcgtaccctgacggcggtggactgctgcctgatggttatcgacgccgcaaaaggtgttgaagatcg tacccgtaagctgatggaagttacccgtctgcgcgacacgccgatcctcacctttatgaacaaacttgaccgtgatatccgcga cccgatggagctgctcgatgaagttgagaacgagctgaaaatcggctgtgcgccgatcacctggccgattggctgcggcaag ctgtttaaaggcgtttaccacctttataaagacgaaacctatctctatcagagcggtaaaggccacaccattcaggaagtccgca ttgttaaagggctgaataacccggatctcgatgctgcggttggtgaagatctggcacagcagctgcgtgacgaactggaactg gtgaaaggcgcgtctaacgagttcgacaaagagctgttccttgcgggcgaaatcactccggtattcttcggtactgcgctgggt aacttcggcgtcgatcatatgttggatggcctggtggagtgggcacctgcgccgatgccgcgtcagactgatacccgtaccgt agaagcgagcgaagataaatttaccggcttcgtatttaaaattcaggccaacatggacccgaaacaccgcgaccgcgtggcg tttatgcgtgtggtgtccggtaaatatgaaaaaggcatgaaactgcgccaggtgcgcactgcgaaagatgtggtgatctccgac gcgctgacctttatggcgggtgaccgttcgcacgttgaagaagcgtatccgggcgatatcctcggcctgcacaaccacggca ccattcagatcggcgacacctttacccagggtgagatgatgaagttcaccggtattccgaacttcgcaccagaactgttccgtc gtatccgcctgaaagatccgctgaagcaaaaacagctgctcaaagggctggtacagctttccgaagagggcgcggtgcagg tgttccgtccaatctccaacaacgatctgatcgttggtgcagttggtgtgctgcagtttgatgtggtggtagcgcgcctgaagag cgaatacaacgttgaagcagtgtatgagtcagtcaacgttgccactgcccgctgggtagaatgtgcagacgcgaagaaattcg aagagttcaagcgtaagaacgaaagccaactggcgcttgatggcggcgataacctcgcttacatcgctaccagcatggtcaa cctgcgcctggcacaggaacgttatccggacgttcagttccaccagacccgcgagcattaaGATCCGGCTGCTAA CAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACT AGCATAACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
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MTF	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA tatgtcagaatcactacgtattattttttgcgggtacacctgactttgcagcgcgtcatctcgacgcgctgttgtcttctggtcataac gtcgttggcgtgttcacccagccagaccgaccggcaggacgcgggtaaaaaactgatgcccagcccggttaaagttctggctg

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CK	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgagaggatcgcatcaccatcaccatcacggatccatgccgttcagcagcacccacaacaaacacaagctgaagttctca gccgaggaggaattcccggacctctcgaagcacaacaaccacatggccaaagtcctcaccccggagctctacaaacgcctc cgggataaggagacccccgagcggattcaccctcgacgacgtcatccaaaccggggtcgataaccccggtcacccattcatc atgacggtgggctgcgtggcggggggacgaggagtcctacgaggtgttcaaggatctcttcgacccgtcatccaggaccgc cacggggggtacaaacccaccgataagcaccgcaccgacctcaaccacgagaacctcaaggggggtgacgacctggacc ccaaatacgtgctgagcagccgcgtgcgcacggggagaagcattaaggggtactccctgcccccacactgcagccgtggg gagcggcgcgccgtcgagaagctgtccgtggaagccctgaacagcctggaggggggagttcaagggccgctattaccctctg aaggccatgacggagcaggagcagcagcagctgatcgacgaccacttcctgttcgataaacccgtctccccactgctgctcg catccgggatggcccgagattggcccgacgccaggggcatctggcacaacgacaacaagacgttcctggtgtgggtgaatg aggaggaccacctgagggtcatctccatggagaaggggaggaaatatgaaggaggtcttccggcgcttctgcgtcggcctcaa gaagatcgaggagatcttcaagaaggccgggcacccccttcatgtggacggagcacctgggttacatcctgacgtgcccctcc aatttgggcacggggctgcgggggggggtccacgtgaagctccccaaactcagccagcaccccaaattcgaggagatcctc cataggctgcgcctgcagaaacggggcaccggcggggtggatacggcggcggtgggcgccgtctttgacatctccaacgc cgaccggctgggcttctcggaggtggagcaggtgcagatggtggtggacggcgtcaagctcatggtggagatggagaaga agctggagcagaaccagcccatagacgacatgatcccggcccagaagtaaGATCCGGCTGCTAACAAAG CCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATA ACCCCTTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
MK	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgtcgacagaaaaactgaagcaccacaagatcatctttgtggtgggtggccccggctcagggaaggggacgcaatgcga gaagattgtgcacaagtatgggtacactcacctctccactggggacctgctccgggcagaggtcagctcgggctcagagcgg ggcaagaagctgcaagccatcatggagaagggcgagctggttcccctggacacggtgctggacatgctgcgggacgccat gttggctaaggcagacacctccaagggtttcctcattgacggctaccctcgcgaggtgaagcagggagaggagtttgaaaag aagattgccccccccgacgctgctgctctacgtggatgcggggaaggagacgatggtgaagcggctgctgaagcggggaga gaccagcgggcgggtggacgacaacgaggagaccatcaagaagcgcttggagacgtactacaaggctaccgaacccgtc atcgccttctacaagggccggggcatcgtccgccagctgaatgccgagggcaccgtggatgaggttttccagcaggtctgct cctacctcgacaagctgctcgagcaccaccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGA AAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCC TTGGGGCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
NDK	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgagaggatcgcatcaccatcaccatcacggatccgatgacgatgacaaagctattgaacgtactttttccatcatcaaacc gaacgcggtagcaaaaaacgtcattggtaatatctttgcgcgctttgaagctgcagggttcaaaattgttggcaccaaaatgctg

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PPiase	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgacctacactaccagacaaattggtgccaagaacaccttggaatacaaagtttatatcgaaaaggatggtaagccagtttct gccttccacgacattcccttgtacgctgacaaggaaaacaacattttcaacatggttgttgaaattccacgttggaccaacgcca agttagaaatcaccaaggaagaaactttgaacccaatcatccaagacaccaagaagggcaagttgagatttgttagaaactgtt tccctcaccatggttacattcacaactatggtgctttcccacaaacttgggaagacccaaacgtaagccacccagaaactaagg cagttggtgacaacgatccaattgatgtgttggaaattggtgaaactattgcttacactggtcaagtcaagcaagttaaggctcta ggtatcatggctttattggatgaaggtgagaccgattggaaagttattgccattgatattaacgatccattagccccaaaattgaac gacattgaggatgttgagaaatacttcccaggtctgttgagggctactaacgaatggttcagaatttacaaaatcccagatggta agccagaaaaccaatttgccttctccggtgaagctaagaacaagaagtacgctttggatatcatcaaggaaacacatgactcct ggaaacaattaattgctggtaagtcttctgacagcaagggtattgatttgaccaatgttactttgcctgacacccccaacctactcca aggctgcctctgatgccatcccaccagcttctccaaaggcagatgctccaattgacaagtctattgacaagtggttcttcatctcc ggttctgttctcgagcaccaccaccaccaccactgaGATCCGGCTGCTAACAAAGCCCGAAAGGA AGCTGAGTTGGCTGCTGCCACCGCTGAGCAATAACTAGCATAACCCCTTGGG GCCTCTAAACGGGTCTTGAGGGGTTTTTT3'
T7 RNAP	5'GATCTTAAGGCTAGAGTACTAATACGACTCACTATAGGGGAATTGTGAGCGG ATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA Tatgagagaggatcgcatcaccatcaccatcacggatccatgaacacgattaacatcgctaagaacgacttctctgacatcgaact ggctgctatcccgttcaacactctggctgaccattacggtgagcgtttagctcgcgaacagttggcccttgagcatgagtcttac gagatgggtgaagcacgcttccgcaagatgtttgagcgtcaacttaaagctggtgaggttgcggataacgctgccgccaagc ctctcatcactaccctactccctaagatgattgcacgcatcaacgactggtttgaggaagtgaaagctaagcgcggcaagcgc ccgacagccttccagttcctgcaagaaatcaagccggaagccgtagcgtacatcaccattaagaccactctggcttgcctaac cagtgctgacaatacaaccgttcaggctgtagcaagcgcaatcggtcgggccattgaggacgaggctcgcttcggtcgtatcc gtgaccttgaagctaagcacttcaagaaaaacgttgaggaacaactcaacaagcgcgtagggcacgtctacaagaaagcattt atgcaagttgtcgaggctgacatgctctctaagggtctactcggtggcgaggcgtggtcttcgtggcataaggaagactctattc atgtaggagtacgctgcatcgagatgctcattgagtcaaccggaatggttagcttacaccgccaaaatgctggcgtagtaggtc aagactctgagactatcgaactcgcacctgaatacgctgaggctatcgcaacccgtgcaggtgcgctggctggcatctctccg atgttccaaccttgcgtagttcctcctaagccgtggactggcattactggtggtggcgtattgggctaacggtcgtcgtcctctggc gctggtgcgtactcacagtaagaaagcactgatgcgctacgaagacgtttacatgcctgaggtgtacaaagcgattaacattgc gcaaaacaccgcatggaaaatcaacaagaaagtcctagcggtcgccaacgtaatcaccaagtggaagcattgtccggtcga ggacatccctgcgattgagcgtgaagaactcccgatgaaaccggaagacatcgacatgaatcctgaggctctcaccgcgtgg aaacgtgctgccgctgctgtgtaccgcaaggacaaggctcgcaagtctcgccgtatcagccttgagttcatgcttgagcaagc caataagtttgctaaccataaggccatctggttcccttacaacatggactggcgcggtcgtgtttacgctgtgtcaatgttcaacc cgcaaggtaacgatatgaccaaaggactgcttacgctggcgaaaggtaaaccaatcggtaaggaaggttactactggctgaa aatccacggtgcaaactgtgcgggtgtcgataaggttccgttccctgagcgcatcaagttcattgaggaaaaccacgagaaca tcatggcttgcgctaagtctccactggagaacacttggtgggctgagcaagattctccgttctgcttccttgcgttctgctttgagt acgctggggtacagcaccacggcctgagctataactgctcccttccgctggcgtttgacgggtcttgctctggcatccagcact tctccgcgatgctccgagatgaggtaggtggtcgcgcggttaacttgcttcctagtgaaaccgttcaggacatctacgggattgt tgctaagaaagtcaacgagattctacaagcagacgcaatcaatgggaccgataacgaagtagttaccgtgaccgatgagaac actggtgaaatctctgagaaagtcaagctgggcactaaggcactggctggtcaatggctggcttacggtgttactcgcagtgtg actaagcgttcagtcatgacgctggcttacgggtccaaagagttcggcttccgtcaacaagtgctggaagataccattcagcca

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