Recent patent applications in synthetic biology

Patent number	Description	Assignee	Inventor	Priority application date	Publication date
JP 2009142273	An RNA-protein complex containing a substrate RNA derived from an RNA-protein complex interaction motif and a fusion protein including an amino acid sequence that couples specifically with RNA; useful for controlling cell function, as a raw material in synthetic biology for reconstructing a biomolecule, and as sensor, or molecular switch, in electronics, imaging, nanotechnology and medical treatment applications.	Japan Science & Technology Agency (Saitama, Japan)	Inoue M, Kikuta M, Kuramitsu S, Saito H	11/22/2007	7/2/2009
WO 2009048971	A method of expressing a protein containing nonstandard amino acids comprising providing a host organism and an orthogonal tRNA system comprising a nonstandard tRNA, a nonstandard aminoacyl-tRNA synthetase and a nonstandard amino acid. This invention combined with the capacity to synthesize whole genomes has important implications in synthetic biology, as it allows the rewriting of the genetic code of existing or newly designed organisms.	Synthetic Genomics (La Jolla, CA, USA)	Glass JI, Krishnakumar R, Merryman CE	10/8/2007	4/16/2009
US 20090061520	A method of creating a synthetic genetic circuit, comprising providing a host cell, a first vector and a second vector, and applying the second vector to the host cell such that recombination occurs between the selectable marker sequence in the first vector and the first and second homologous sequences.	University of Michigan (Ann Arbor, MI, USA)	Mayo AE, Ninfa A, Selinsky S, Song QX, Woolf P	11/3/2006	3/5/2009
WO 2008144060, US 20090047718	A first recombinant solventogenic organism comprising an altered expression of a gene involved in a solvent production pathway relative to the expression in the first organism strain prior to its transformation.	Advanced Biofuels (Chicago), Blaschek HP, Shi Z, Stoddard SF, TetraVitae Bioscience (Chicago)	Blaschek HP, Shi Z, Stoddard SF	5/17/2007	11/27/2008, 2/19/2009
US 20070264688, WO 2008024129	A method of constructing a synthetic genome for making synthetic cells for use in generating synthetic fuels, e.g., hydrogen or ethanol, by assembling nucleic acid cassettes that comprise portions of the synthetic genome.	J. Craig Venter Institute (Rockville, MD, USA), Hutchison CA, Smith HO, Venter JC	Hutchison CA, Smith HO, Venter JC	12/6/2005	11/15/2007, 2/28/2008
US 20070031942 CN 101133166	Producing polymers of nucleic acids by hybridizing the oligonucleotide mixture comprising oligonucleotides to capture probes and joining the nicking and gapping sites contained in the hybridizing duplex using ligation; enables parallel multiplex ligation and amplification on surfaces for making assemblies of nucleic acids of various biological applications and for analysis of biological samples such as DNA, RNA and proteins.	Gao X, Sheng N, Zhang X, Zhou X, Zhu Q	Gao X, Sheng N, Zhang X, Zhou X, Zhu Q	3/1/2005	2/8/2007, 2/27/2008
US 20070269862, WO 2008016380	A method of making a synthetic cell comprising introducing a genome or partial genome into a cell or cell-like system.	Assad-Garcia N, Glass JI, Hutchison CA, Lartigue C, Smith HO, Venter JC, Young L, J. Craig Venter Institute (Rockville, MD, USA)	Assad-Garcia N, Glass JI, Hutchison CA, Lartigue C, Smith HO, Venter JC, Young L	12/23/2005	11/22/2007, 2/7/2008
US 20070087366, WO 2007085906	A new composition comprising a loxP recombination element having a left inverted repeat region, a right inverted repeat region and a spacer region comprising spacer regions; useful for carrying out multiple non-cross-reacting recombination reactions in synthetic biology and metabolic engineering.	Holt RA, Missirlis PI, BC Cancer Agency (Vancouver, BC, Canada)	Holt RA, Missirlis PI	10/13/2005	4/19/2007, 8/2/2007

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