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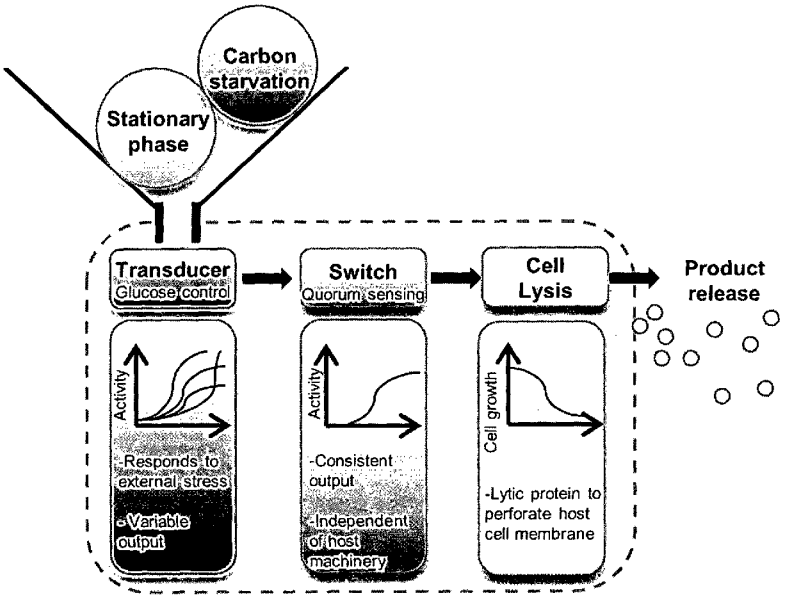
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[Continued on next page]

(54) Title: PROGRAMMABLE SYNTHETIC LYSIS SYSTEM FOR CONTROLLED RELEASE OF MACROMOLECULES

Figure 1



(57) Abstract: The present invention relates to an expression system or a recombinant cell comprising one or more nucleic acid constructs, wherein the one or more nucleic acid constructs comprise: (i) a first gene encoding for one or more protein(s) that activate a quorum sensing system; and (ii) a second gene encoding for one or more lytic protein(s) capable of forming a lesion in a host cell's membrane; wherein the first gene is under control of a first promoter and the second gene is under control of a second promoter, wherein the first promoter controlling the first gene is a carbon starvation-induced promoter and the second promoter is a quorum sensing system promoter induced by the quorum sensing system activated by one or more protein(s) encoded by the first gene as well as recombinant cells hosting such an expression system. Further encompassed is the use of the expression systems and cells of the invention for the expression of gene products of interest and the respective methods of use.

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