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(54) **Title**: REGULATED GENE EXPRESSION SYSTEMS AND CONSTRUCTS THEREOF

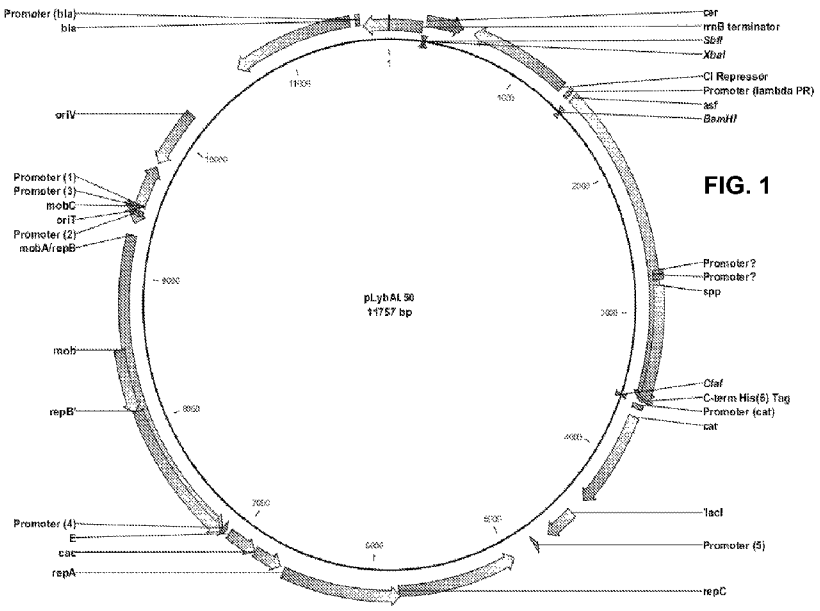


FIG. 1

(57) **Abstract**: The present disclosure is directed to compositions and methods for nitrogen sensitive regulation of expression of a transcribable nucleic acid molecule. One aspect provides a nitrogen-sensitive expression system that includes a transcription factor region comprising an NtcA binding site and a core promoter region comprising a RuBisCo promoter or a variant or a functional fragment thereof. Another aspect provides a method of transforming a host cell with an expression system. Also provided are expression cassettes, transformed host cells, and kits.

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