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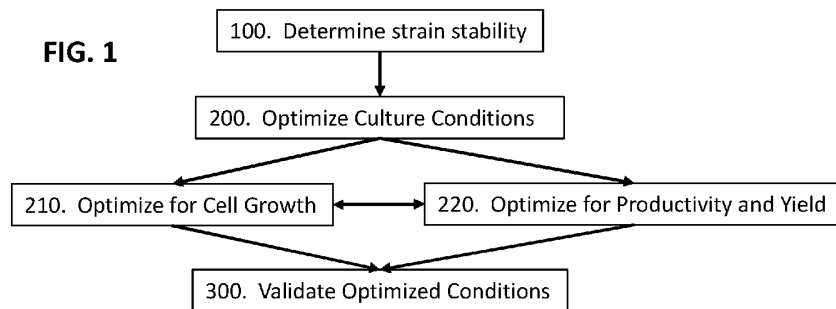
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(54) Title: METHODS AND SYSTEMS FOR OPTIMIZING CULTURE CONDITIONS IN A CULTURE PROCESS

FIG. 1



(57) Abstract: Methods and systems for iteratively improving culture condition for at least one culture output in a culture process. The methods comprise: a) providing a continuous culture of cells in a bioreactor, wherein the cells are cultured under culture conditions that comprise a set of culture parameters, and wherein the culture of cells produces at least one culture output at a first measure; b) while maintaining the cells in continuous culture, iteratively testing different culture conditions by: (i) selecting a new culture condition comprising a new set of culture parameters predicted to improve the measure of the culture output; (ii) perturbing the cells with the new culture conditions; and (iii) determining a new measure of the culture output; wherein testing is iterated to produce a plurality of improvements in the measure of culture output. The iterative process can be performed by an automated artificial intelligence.

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