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(54) **LARGE-SCALE PEI-MEDIATED PLASMID TRANSFECTION**

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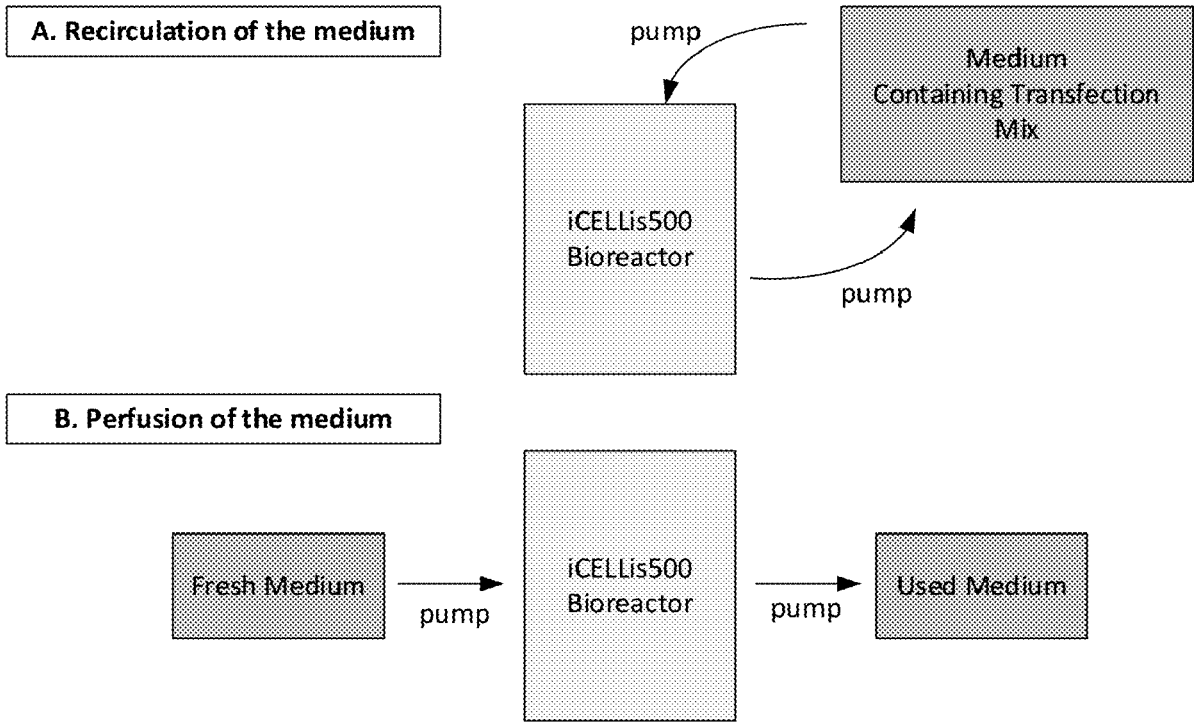
(57) **ABSTRACT**

We have found a way to make possible large-scale plasmid transfection using PEI to produce high titer viral vectors in fixed bed or adherent cell culture bioreactors by using PEI as a transfection agent, while avoiding formation of the PEI-plasmid precipitate which in prior art approaches clogged adherent bioreactor substrates. We have also found a way to improve PEI-based transfection by modifying how pH and CO_2 are managed during transfection.