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(54) **METHOD FOR FABRICATING FOAM SCAFFOLDS TO CULTURE CELLS**

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(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

Methods and apparatuses for using microfluidics to generate bubbles and using the generated bubbles to construct scaffolds and cell-holding structures for culturing biological samples or analytes. In one implementation, a scaffold for growing cells is provided to include a matrix of interconnected cavities formed from mixing a gas and a liquid containing a cross linkable material to produce a matrix of gas bubbles of substantially the same size and cross linking the cross linkable material to form a structure in which cells are grown. In another implementation, a scaffold apparatus for growing cells includes a ball of a cross linked material forming an exterior shell that encloses to form a hollow interior inside the ball and biological samples embedded in the external shell.

20 Claims, 13 Drawing Sheets