



Techniques for polymeric scaffolds preparation

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Several techniques have been developed to fabricate scaffolds. The conventional methods include fiber felts, fiber bonding, melt molding, solvent casting/particulate leaching, gas foaming/particulate leaching, phase separation, and high-pressure processing. Electrospinning has also been utilized in producing a nanofibrous 3-D matrix, and rapid prototyping technologies have enabled solid free form fabrication directly from a computer-aided design (CAD) model. Engineered scaffolds may enhance the functionalities of cell and tissue to support the adhesion and growth of a large number of cells by providing a large surface area and pore structure within a three-dimensional structure. A variety of techniques have been used for processing biodegradable polymers into 3-D porous scaffolds.

Key words: scaffold, fiber felts, fiber bonding, melt molding, solvent casting/particulate leaching, gas foaming/particulate leaching, phase separation, Electrospinning