

ABSTRACT

According to the present disclosure, a hydrophobic polymeric composite comprising a hydrophobic polymer matrix with hydrophobically modified particles dispersed therein is provided. The hydrophobically modified particles may be derived from hydrophilic particles modified with organic moieties. The hydrophobically modified particles may also take in the form of core-shell fibers with hydrophilic particles encapsulated inside the core of said fibers or in the form of monolithic fibers embedded with hydrophilic particles. The method for making hydrophobic polymeric composite comprising each of the various hydrophobically modified particles is also provided. The hydrophobic polymer matrix can be chosen from poly(alpha-hydroxyesters), polycarbonates, polyurethanes or polyalkanoates. For example, hydrophilic particles, such as barium sulphate, zirconium oxide, tantalum oxide or bismuth oxide, are dispersed in the hydrophobic biodegradable polymers, such as poly-(L-lactide) (PLLA).

FIG. 4A, 4B and 4C