

METHOD FOR 3D PRINTING OF VASCULARIZED TISSUES AND ORGANS

Abstract

The 3D printing method disclosed here for the production of vascularized tissues and organs requires a droplet printer to produce photorealistic high-resolution prints and a device for applying non-directional or directional electromagnetic waves. The process uses a new type of capillary ink that crosslinks or undergoes a layer-forming reaction only in the edge area of the ink drops. Unbound capillary ink components are removed. The resulting cavities form a capillary network with diameters of up to approx. 10 μm . Also disclosed is a novel printer table for supplying the printed tissue with medium during printing and a printer head supply unit for individually mixing the bio-inks from cell concentrate and various ink concentrates.

[No accompanying figure for abstract]