Biopolymer films with a thickness of 100μm are prepared using spin coating technique with solutions consisting of 25wt.% polycaprolactone or poly-l-lactide in dichloromethane. SU-8 stamps are fabricated using three photolithography steps. The stamps are used to emboss 3D microstructures in the biopolymer films. It is found that the best pattern transfer for the polycaprolactone films is achieved just below the melting point at 60°C. For the poly-l-lactide films the best pattern transfer is achieved at 120°C.