CONCLUSIONS

The PANI/chitosan blend films were successfully prepared by the solution casting method. Smooth, flexible, and mechanically robust blend films were obtained with PANI content lower than 50 wt%. To become electrically conductive, the undoped PANI was doped with HCl. The electrical conductivity of the doped films increased with increasing PANI content. However, high concentrations of HCl (2M-6M) and long doping times (15h-24h) lead to a decrease in electrical conductivity. This might be due to the overprotonation of PANI chains in the blend films. Moreover, increasing strength and smaller anion of acid dopant leads to enhance electrical conductivity of the blend films. The mechanical properties of the blend films were strongly affected by the treatement with HCl in the doping process. The inferior mechanical properties of the blend films after doping were presumed to be due to hydrolysis of chitosan chains. The blend film provided an application in electrically stimulated controlled release. It was found that the release of drug model from the blend film with an electrical field was higher than the blend film without an electrical field.