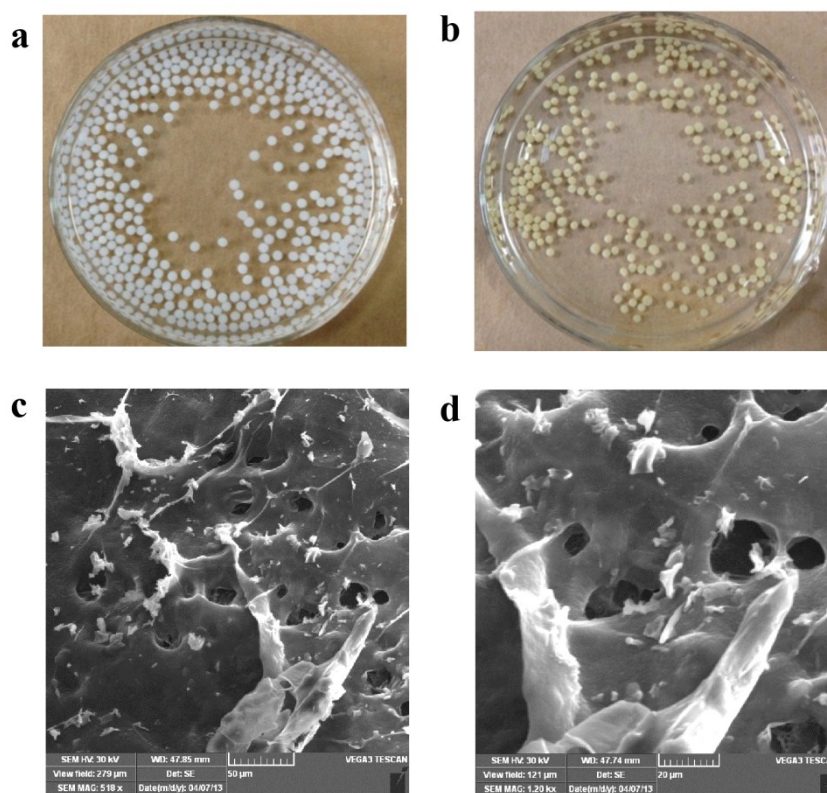
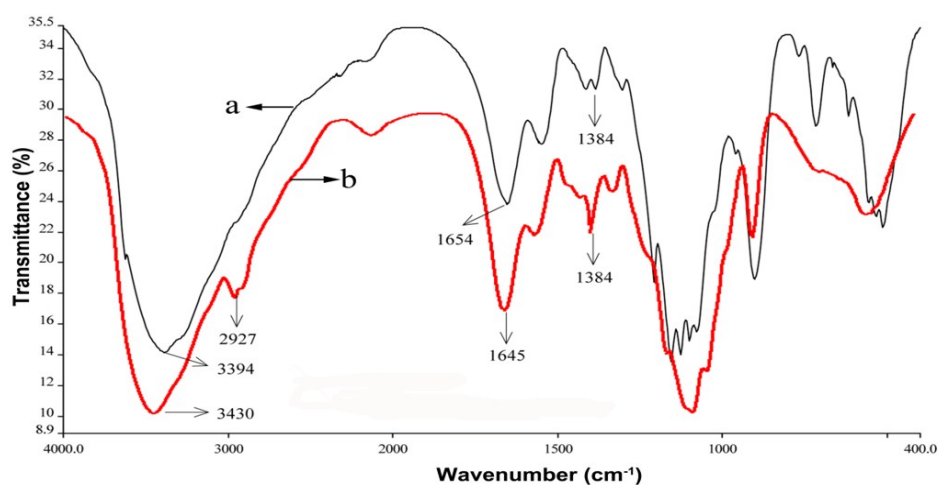


## Supplementary Material



**Fig. S1** The optical photographs of chitosan microspheres, a: before being activated by glutaraldehyde, b: after being activated by glutaraldehyde; c and d were the micrographs of modified chitosan microspheres' surface detected by scanning electron microscopy (SEM).



**Fig. S2** The FTIR spectra of chitosan carrier, a: natural chitosan microspheres, b: glutaraldehyde-

modified chitosan microspheres.

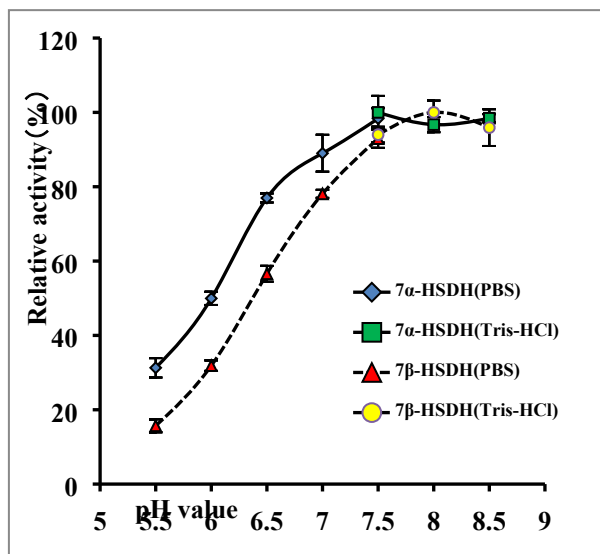


Fig. S3 The effect of pH on the immobilization process

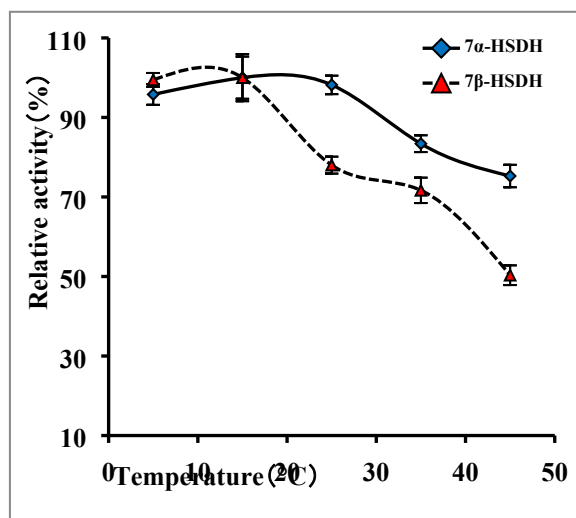


Fig. S4 The effect of temperature on the immobilization process.