Supporting Information

Chitosan films containing mesoporous SBA-15

supported silver nanoparticles for wound dressing

Valeria Ambrogi^{†*}, Anna Donnadio[‡], Donatella Pietrella[†], Loredana Latterini[‡], Federica Alunni Proietti[†], Fabio Marmottini[‡], Giuseppina Padeletti[§], Saulius Kaciulis[§], Stefano Giovagnoli[†], Maurizio Ricci[†]

[†] Dipartimento di Scienze Farmaceutiche, Università degli Studi di Perugia, Via del Liceo 1, 06123 Perugia, Italy. E-mail: <u>valeria.ambrogi@unipg.it</u>, Tel.: +39 755855125; fax: +39 0755855125.

[‡]Dipartimento di Chimica, Biologia e Biotecnologie, Università degli Studi di Perugia, Via Elce di Sotto, 8, 06123 Perugia, Italy.

§ Istituto per lo Studio dei Materiali Nanostrutturati (ISMN) – CNR, Area della Ricerca Roma 1, Via Salaria Km 29.3, 00015, Monterotondo Stazione (Rome), Italy.



Fig. S1 EDS images of Si, O and Ag in SBA-15-Ag.



Fig. S2 XRDP patterns of chitosan film (film 1) and SBA-15-Ag chitosan films at different SBA-15-Ag concentrations (film 5-7).



Fig. S3 Stress - strain curves for chitosan and composite films containing 10wt% filler.



Fig. S4 Young's modulus vs. SBA-15 and SBA-15-Ag mass fraction .



Fig. S5 Tensile strength vs. SBA-15 and SBA-15-Ag mass fraction.



Fig. S6 Elongation vs. SBA-15 and SBA-15-Ag mass fraction.



Fig. S7 Growth curve of *S. epidermidis* and *P. aeruginosa* in presence of Film 1, Film 2 and Film 5. Results are expressed as mean of three different evaluations.



Fig. S8 Cell viability of human skin keratinocytes NCTC 2544 after 24h of incubation with the indicated films. Results are expressed as mean \pm SD of six evaluations performed in two different experiments. **P*-values of < 0.05 were considered significant (t-test).