

Article

Synthesis, Characterization and Physicochemical Properties of Biogenic Silver Nanoparticle-Encapsulated Chitosan Bionanocomposites

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Figure S1. Green synthesized nanoparticles colour change observed from pale yellow to dark yellow then finally to reddish brown.

Table S1. Swelling degree of films.

| Films | EDS of Scaffolds | | | | | |
|-------|------------------|---------|---------|----------|----------|----------|
| | x | y | z | Average | SD | SE |
| C | 1160.7 | 1178 | 1170 | 1169.567 | 8.658137 | 1.698837 |
| Cp | 1327.65 | 1311 | 1326.9 | 1321.85 | 9.403856 | 1.770485 |
| Cps | 1228.23 | 1237.87 | 1224.87 | 1230.323 | 6.748076 | 1.499786 |
| Cps1 | 1229.52 | 1245.45 | 1249.31 | 1241.427 | 10.49054 | 1.869986 |
| Cps2 | 1250.05 | 1259.78 | 1251.31 | 1253.713 | 5.291525 | 1.328097 |
| Cps3 | 1255.24 | 1263.98 | 1268.01 | 1262.41 | 6.528162 | 1.475145 |
| Cps4 | 1281.85 | 1271 | 1293 | 1281.95 | 11.00034 | 1.914884 |

SD- standard deviation, SE- Standard error.

Table S2. WVTR of films.

| Films | WVTR of Scaffolds | | | | | |
|-------|-------------------|-------|-------|----------|----------|----------|
| | x | y | z | Average | SD | SE |
| C | 60.51 | 61.02 | 60.76 | 60.76333 | 0.255016 | 0.291557 |
| Cp | 68.74 | 68.04 | 67.89 | 68.22333 | 0.453689 | 0.388882 |
| Cps | 67.65 | 67.51 | 68.09 | 67.75 | 0.302655 | 0.317624 |
| Cps1 | 68.87 | 68.92 | 69.72 | 69.17 | 0.47697 | 0.398735 |
| Cps2 | 69.76 | 69.43 | 69.01 | 69.4 | 0.375899 | 0.353977 |
| Cps3 | 71.74 | 70.98 | 71.9 | 71.54 | 0.491528 | 0.404775 |
| Cps4 | 75.68 | 75.88 | 76.21 | 75.92333 | 0.267644 | 0.298688 |

Table S3. MRC of Scaffolds.

| Films | MRC of Scaffolds | | | | | |
|-------|------------------|-------|--------|----------|----------|----------|
| | x | y | z | Average | SD | SE |
| C | 95.27 | 95.44 | 95.69 | 95.46667 | 0.211266 | 0.265371 |
| Cp | 97.3 | 97.39 | 97.64 | 97.44333 | 0.13167 | 0.2095 |
| Cps | 96.92 | 96.9 | 97.46 | 97.09333 | 0.284436 | 0.307915 |
| Cps1 | 97.76 | 97.38 | 97.45 | 97.53 | 0.075056 | 0.158172 |
| Cps2 | 97.81 | 97.99 | 98.38 | 98.06 | 0.207926 | 0.263266 |
| Cps3 | 98.89 | 99.12 | 98.11 | 98.70667 | 0.507766 | 0.411406 |
| Cps4 | 99.21 | 99.84 | 95.035 | 98.02833 | 2.426596 | 0.899369 |

Table S4. Degradation in Hank's solution.

| Films | Hank's Degradation of Scaffolds | | | | | |
|-------|---------------------------------|---------|---------|----------|----------|----------|
| | x | y | z | Average | SD | SE |
| C | 926.12 | 910.87 | 937.25 | 924.7467 | 13.24351 | 2.101072 |
| Cp | 1698.2 | 1688.42 | 1677.5 | 1688.04 | 10.35523 | 1.857887 |
| Cps | 1542.69 | 1563.01 | 1552.75 | 1552.817 | 10.16016 | 1.840305 |
| Cps1 | 1564.78 | 1574.64 | 1563.21 | 1567.543 | 6.195824 | 1.437106 |
| Cps2 | 1568.56 | 1579.41 | 1571.37 | 1573.113 | 5.631166 | 1.370057 |
| Cps3 | 1579.97 | 1589 | 1594.97 | 1587.98 | 7.551841 | 1.586594 |
| Cps4 | 1598.2 | 1623.3 | 1634.9 | 1618.8 | 18.75926 | 2.500618 |

Table S5. % of EAB of scaffolds.

| Films | % of EAB of Scaffolds | | | | | |
|-------|-----------------------|--------|--------|----------|----------|----------|
| | x | y | z | Average | SD | SE |
| C | 4.6272 | 4.987 | 5.879 | 5.1644 | 0.64448 | 0.463494 |
| Cp | 17.9467 | 18.967 | 17.678 | 18.19723 | 0.680041 | 0.47611 |
| Cps | 6.3994 | 6.998 | 7.456 | 6.951133 | 0.529857 | 0.420261 |
| Cps4 | 10.5161 | 10.789 | 10.999 | 10.76803 | 0.242132 | 0.284096 |

Table S6. Tensile strength (TS) of scaffolds

| Films | Tensile Strength of Scaffolds | | | | | |
|-------|-------------------------------|--------|--------|----------|----------|----------|
| | x | y | z | Average | SD | SE |
| C | 0.9586 | 0.9284 | 0.9184 | 0.935133 | 0.020929 | 0.083524 |
| Cp | 0.8981 | 0.8145 | 0.8345 | 0.849033 | 0.043654 | 0.120629 |
| Cps | 1.2218 | 1.2645 | 1.2953 | 1.260533 | 0.03691 | 0.110921 |
| Cps4 | 0.63295 | 0.7435 | 0.6543 | 0.676917 | 0.058643 | 0.139813 |