

# Biocomposite Hydrogels for the Treatment of Bacterial Infections: Physicochemical Characterization and In Vitro Assessment

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**Table S1.** EDAX elemental analysis for biocomposite hydrogels.

| Sample     | Element    | Weight %    | Atomic %    |
|------------|------------|-------------|-------------|
| C2P4.10.Z3 | C K        | 54.93       | 63.68       |
|            | N K        | 1.94        | 1.93        |
|            | O K        | 38.88       | 33.83       |
|            | <b>ZnK</b> | <b>1.53</b> | <b>0.38</b> |
|            | PtM        | 2.72        | 0.18        |
| C2P4.10.Z5 | C K        | 48.42       | 57.45       |
|            | N K        | 3.82        | 3.89        |
|            | O K        | 42.4        | 37.76       |
|            | <b>ZnK</b> | <b>3.4</b>  | <b>0.77</b> |
|            | PtM        | 1.96        | 0.13        |
| C2P4.15.Z3 | C K        | 53.6        | 62.04       |
|            | N K        | 1.59        | 1.58        |
|            | O K        | 41.33       | 35.91       |
|            | <b>ZnK</b> | <b>1.57</b> | <b>0.33</b> |
|            | PtM        | 1.91        | 0.14        |
| C2P4.15.Z3 | C K        | 49.21       | 58.91       |
|            | N K        | 3.16        | 3.24        |
|            | O K        | 40.87       | 36.73       |
|            | <b>ZnK</b> | <b>3.48</b> | <b>0.93</b> |
|            | PtM        | 3.28        | 0.19        |

**Table S2.** ANOVA statistical test for evaluation of antibacterial activity.

| <b>Anova statistical test on <i>S. aureus</i></b>    |                       |           |                    |                |                           |
|--|-----------------------|-----------|--------------------|----------------|---------------------------|
|  | <b>Sum of Squares</b> | <b>Df</b> | <b>Mean Square</b> | <b>F-ratio</b> | <b>Significance Level</b> |
| Between groups                                       | 82.6875               | 1         | 82.6875            | 9.9661         | 0.0342                    |
| Within groups  | 33.1875               | 4         | 8.2968             |                |                           |
| Total  | 115.875               | 5         |                    |                |                           |
| <b>Anova statistical test on <i>E. coli</i></b>      |                       |           |                    |                |                           |
|  | <b>Sum of Squares</b> | <b>Df</b> | <b>Mean Square</b> | <b>F-ratio</b> | <b>Significance Level</b> |
| Between groups                                       | 63.0208               | 1         | 63.0208            | 79.0850        | 0.0008                    |
| Within groups  | 3.1875                | 4         | 0.7968             |                |                           |
| Total  | 66.2083               | 5         |                    |                |                           |
| <b>Anova statistical test on <i>K. pneumonia</i></b> |                       |           |                    |                |                           |
|  | <b>Sum of Squares</b> | <b>Df</b> | <b>Mean Square</b> | <b>F-ratio</b> | <b>Significance Level</b> |
| Between groups                                       | 29.0785               | 1         | 29.0785            | 22.997         | 0.0086                    |
| Within groups  | 5.0578                | 4         | 1.2644             |                |                           |
| Total  | 34.1363               | 5         |                    |                |                           |