

## NANOBIOCOMPOSITES OF KAPPA-CARRAGEENAN WITH GOLD NANOPARTICLES

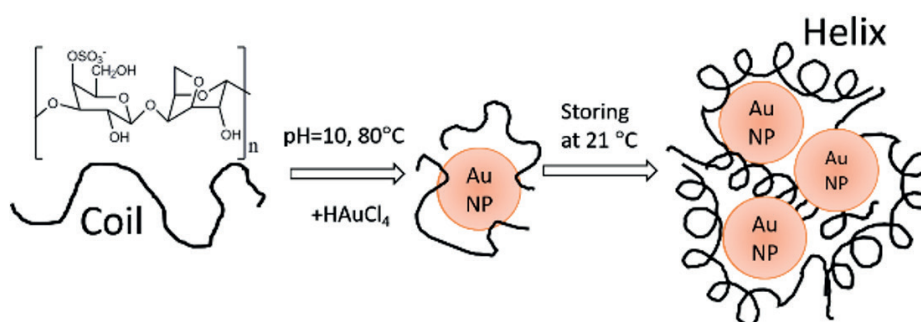
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The work concerns the nanobiocomposites formed upon storing Au nanoparticles (NP) synthesized by an ecologically safe reduction of gold precursor with k-carrageenan,<sup>1</sup> an anionic thermoresponsive gelling polysaccharide obtained from red algae.



We report the results of dynamic and static light scattering, electrophoretic dynamic light scattering, capillary viscometry, and optical rotation on the properties of the nanobiocomposite colloids. The nanobioconjugation was observed by infrared spectroscopy. Ensembles of AuNPs formed upon the nanobiocomposites' storing were visualized by transmission electron microscopy. The present work is based on the previous detailed light scattering studies of the pristine k-carrageenan.<sup>2,3</sup> We show that the size and structure of the colloids can be controlled by temperature and ionic strength. Such controlled colloids containing highly scattering ensembles of AuNPs capped by thermo- and ion-sensitive biopolymer are interesting for teranostic and sensing applications.

### References

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