

## Supporting Information

### Fabrication of Lipophilic Gold Nanoparticles for Studying Lipids by Surface Enhanced Raman Spectroscopy (SERS)

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#### Particle size distribution and morphology of the AuNPs in citrate

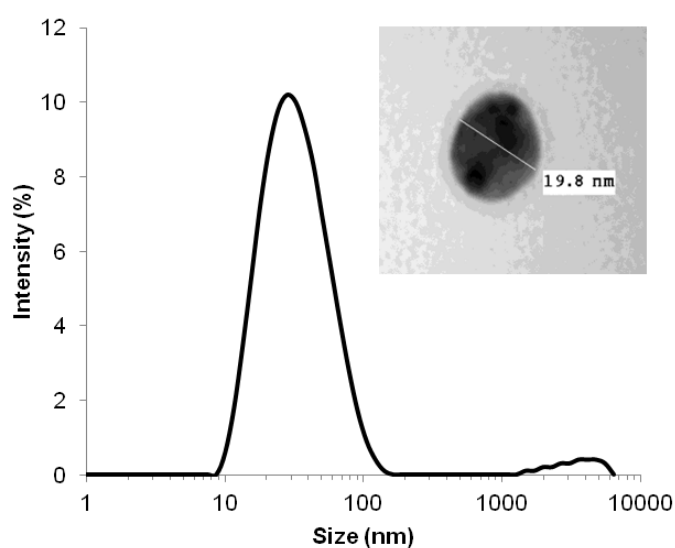


Figure S1. Particle size distribution of prepared AuNPs in citrate and a representative Transmission Electron Microscopic image of an AuNP.

The oxidation of the canola oil was validated by measuring the hydroperoxide value using the method described previously<sup>1</sup>.

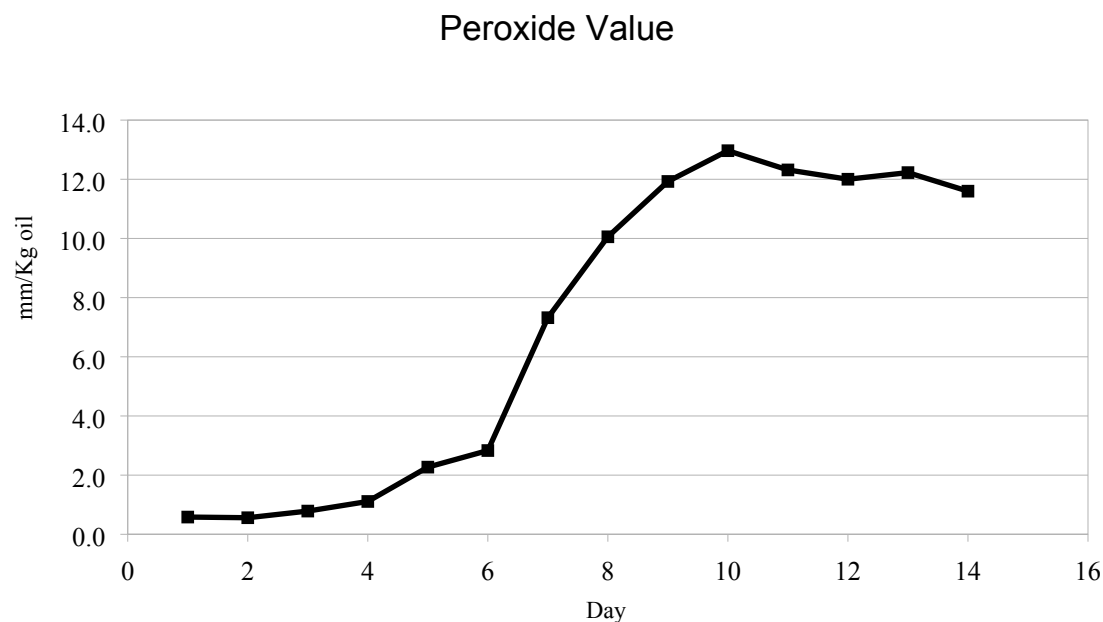


Figure S2. Formation of lipid hydroperoxides during the oxidation. At day 7, the hydroperoxide value was significantly increased.

#### References

- (1) Hu, M.; McClements, D. J.; Decker, E. a Lipid Oxidation in Corn Oil-in-water Emulsions Stabilized by Casein, Whey Protein Isolate, and Soy Protein Isolate. *Journal of agricultural and food chemistry* **2003**, *51*, 1696–700.