Accepted Manuscript

Title: PLASMON-ACTIVATED INTERMOLECULAR NONRADIATIVE ENERGY TRANSFER IN SPHERICAL NANOREACTORS

Authors: M.G. Kucherenko, D.A. Kislov

PII: S1010-6030(17)31417-X

DOI: https://doi.org/10.1016/j.jphotochem.2017.10.020

Reference: JPC 10944

To appear in: Journal of Photochemistry and Photobiology A: Chemistry

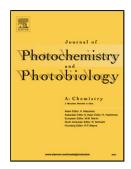
 Received date:
 27-9-2017

 Revised date:
 10-10-2017

 Accepted date:
 11-10-2017

Please cite this article as: M.G.Kucherenko, D.A.Kislov, PLASMON-ACTIVATED INTERMOLECULAR NONRADIATIVE ENERGY TRANSFER IN SPHERICAL NANOREACTORS, Journal of Photochemistry and Photobiology A: Chemistry https://doi.org/10.1016/j.jphotochem.2017.10.020

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

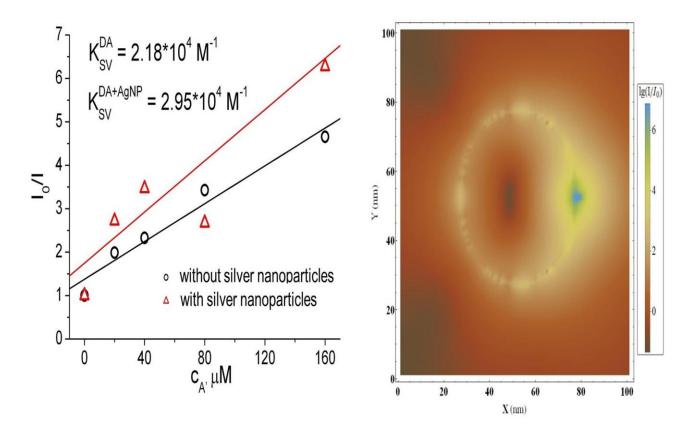


ACCEPTED MANUSCRIPT

PLASMON-ACTIVATED INTERMOLECULAR NONRADIATIVE ENERGY TRANSFER IN SPHERICAL NANOREACTORS

M.G. Kucherenko, D.A. Kislov Centre of Laser and Information Biophysics, Orenburg State University, Orenburg, Russia clibf@mail.osu.ru

GRAPHICAL ABSTRACT



Highlights

- It is shown experimentally that nonradiative intermolecular singlet-singlet energy transfer in a porous matrix with silver nanoparticles is more effective by 35% than in an environment without them.
- The effect of the polarization of nanoreactor walls in the calculation of the local field characteristics in the cavity we takes into account to find the rate of nonradiative energy transfer.
- The finite-difference time-domain method shows the regions of local amplification of the electric field in the gap between silver nanoparticles and the pore surface.
- Comparison of experimental and analytical curves gives good agreement between theory and experiment

Download English Version:

https://daneshyari.com/en/article/6492782

Download Persian Version:

https://daneshyari.com/article/6492782

<u>Daneshyari.com</u>