## **Supporting Information**

## **Coupled plasmons in Aluminum nanoparticle superclusters**

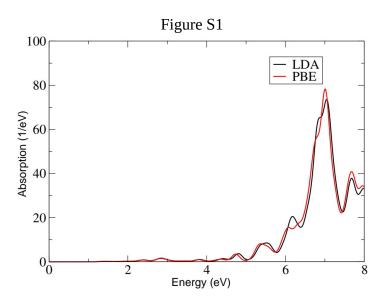
Mufasila Mumthaz Muhammed<sup>1</sup>, Tahani A. Alrebdi<sup>2</sup>, Ali J. Chamkha<sup>3</sup>, Junais Habeeb Mokkath<sup>4</sup>

## j.mokath@kcst.edu.kw

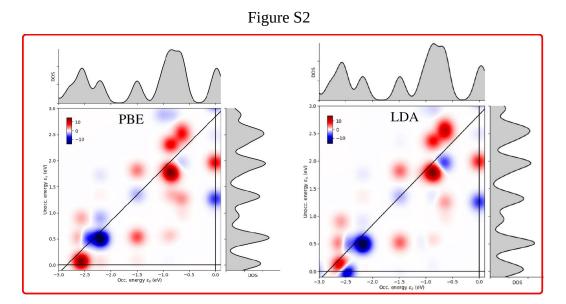
<sup>1</sup>American International University, Saad Al Abdullah - East of Naseem, Block 3, Kuwait.

<sup>2</sup>Department of Physics, College of Science, Princess Nourah bint Abdulrahman University, P.O. Box 84428, Riyadh 11671, Saudi Arabia.

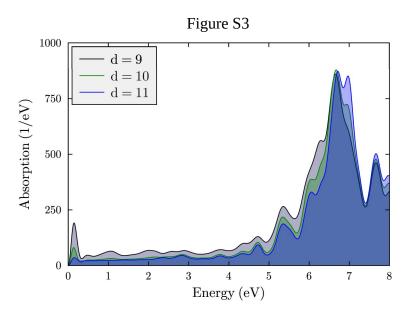
<sup>3</sup>Faculty of Engineering, Kuwait College of Science and Technology, Doha District, 35004, Kuwait. <sup>4</sup>Quantum Nanophotonics Simulations Lab, Department of Physics, Kuwait College of Science And Technology, Doha Area, 7th Ring Road, P.O. Box 27235, Kuwait.



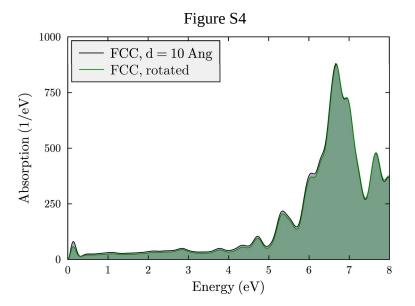
Comparison of the LDA and GGA absorption spectra in the case of single Al nanoparticle



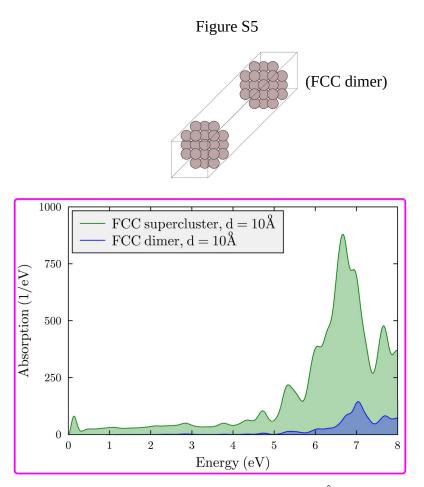
Comparison of TCM plots using GGA and LDA functionals



Evolution of the absorption spectra of the FCC cluster as a function of d values (in Å)



Comparison of the absorption spectra of non-rotated and rotated FCC cluster for d = 10 Å.



Comparing the absorption spectra of FCC supercluster (d = 10 Å) and FCC dimer (d = 10 Å).