

FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

FUNCTIONAL COLLOIDAL NANOPARTICLES: GROWTH, SURFACE
CHEMISTRY AND APPLICATIONS IN BIOLOGY

By
ZHICHENG JIN

A Dissertation submitted to the
Department of Chemistry and Biochemistry
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

2020

Zhicheng Jin defended this dissertation on July 7, 2020.

The members of the supervisory committee were:

Hedi Mattoussi

Professor Directing Dissertation

Hengli Tang

University Representative

Geoffrey F. Strouse

Committee Member

Hong Li

Committee Member

Qing-Xiang (Amy) Sang

Committee Member

The Graduate School has verified and approved the above-named committee members, and certifies that the dissertation has been approved in accordance with university requirements.