**Manuscript Title:**

Measurement of Exciton Transport in Conjugated Polymer Nanoparticles

**Authors:**

Louis C. Groff, Xiaoli Wang and Jason D. McNeill

**Corresponding Author:**

Jason D. McNeill

Department of Chemistry

Clemson University

Clemson, SC 29634 USA

Phone: (864) 656-4065

E-mail: mcneill@clemson.edu

**Manuscript Type:**

Article

Dear Editor,

Attached is an electronic copy of an original manuscript titled “*Measurement of Exciton Transport in Conjugated Polymer Nanoparticles*”. Please consider this manuscript for publication in **J. Phys. Chem. C.** We have pioneered the use of fluorescent conjugated polymer nanoparticles (CPNs) in advanced imaging applications, in which brightness and photostability of the nanoparticles are often crucial issues. In this manuscript, we demonstrate that incorporation of hydrophobic anti-fade agents directly in the particles greatly improves the fluorescence quantum yield and photostability of the CPNs. In addition, we quantitatively compared the photostability of CPNs with that of colloidal CdSe quantum dots, at both the ensemble and single particle level, finding that doped CPNs are significantly more photostable than quantum dots under the conditions employed.

We believe this work represents a significant advance in the field of fluorescent nanoparticle-based imaging agents as well as a significant advance in the state of the art of optical characterization methods for nanoparticles, and therefore of interest to a broad range of readers. We therefore submit this manuscript for consideration for publication in **J. Phys. Chem. C.** Thank you for your consideration. We look forward to your favorable response.

Sincerely,

Jason D. McNeill

**Recommended Reviewers:**

1. Linda Peteanu

Department of Chemistry

Carnegie Mellon University

4400 Fifth Ave.

Pittsburgh, PA 15213

Phone: (412) 268-1061

E-mail: peteanu@andrew.cmu.edu

2. Jin Zhang

Department of Chemistry

UC Santa Cruz

1156 High Street

Santa Cruz, CA 95064

Phone: (831) 459-3776

E-mail: zhang@ucsc.edu

3. Tak Kee

School of Chemistry and Physics

The University of Adelaide

SA 5005

Australia

Phone:  +61 (0)8 8303 5039

E-mail: tak.kee@adelaide.edu.au

This manuscript is not being considered by any other journal.