

Effect of strong coupling on photodegradation of semiconducting polymer P3HT: supplementary material

VANESSA N. PETERS¹, MD OMAR FARUK¹, JOSHUA ASANE¹, ROHAN ALEXANDER^{2,3}, D'ANGELO A. PETERS^{2,4}, SRUJANA PRAYAKARAO¹, SANGEETA ROUT¹, M. A. NOGINOV^{1*}

¹Center for Materials Research, Norfolk State University, Norfolk, Virginia 23504, USA

²Summer Research Program, Center for Materials Research, Norfolk State University, Norfolk, Virginia 23504, USA

³School of Engineering, University of Michigan, Ann Arbor, Michigan 48109, USA

⁴College of Science, Purdue University, West Lafayette, Indiana 47907, USA

*Corresponding author: mnoginov@nsu.edu

Published 7 March 2019

This document provides supplementary information to "Effect of strong coupling on photodegradation of semiconducting polymer P3HT," <https://doi.org/10.1364/OPTICA.6.000318>, including action integrals at Xe lamp photoexposure and calculated and experimental positions of the minima in the reflection spectra of the cavities.

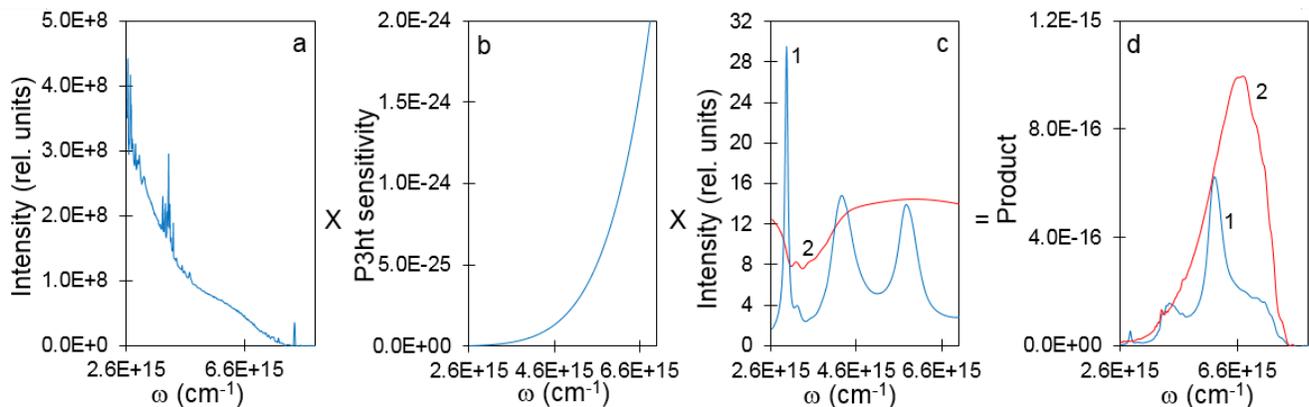


Fig. S1. Spectra of (a) the Xenon lamp emissivity, (b) the sensitivity of P3HT to photoexposure, and (c) the value $|E|^2$ integrated over the thickness of the P3HT layer in the cavity (trace 1) and on top of glass (trace 2). (d) The product of the three spectra depicted in Figures S1a, S1b, and S1c was used to calculate the "action" integrals \int_c (trace 1) and \int_g (trace 2).

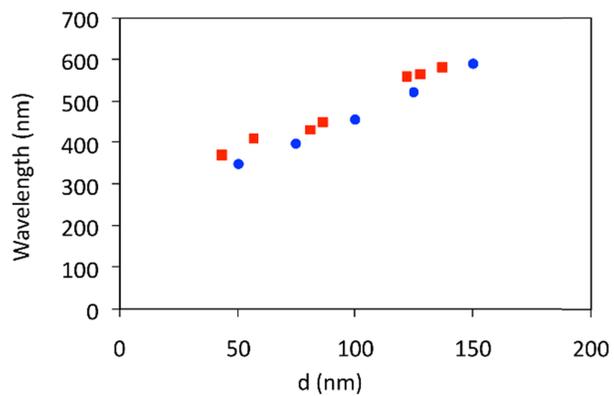


Fig. S2. Wavelength positions of reflectance minima in Fabry-Perot cavities of different sizes filled with PMMA polymer; red squares – experiment, blue circles – calculation.