Electronic Supporting Information for:

Characterisation of a Dipolar Chromophore with Third-Harmonic Generation Applications in the Near-IR

Yulia A. Getmanenko,[1] Joel M. Hales,[b] Mihaela Balu,[b] Jie Fu,[b] Egbert Zojer,[ac] Ohyun Kwon,[a] Jeffrey Mendez,[d] S. Thayumanavan,[d] Gregory Walker,[e] Qing Zhang,[a] Scott D. Bunge,[f] Jean-Luc Brédas,[a] David J. Hagan,[b] Eric W. Van Stryland,[b] Stephen Barlow,[ae] Seth R. Marder[ade]

[1]School of Chemistry and Biochemistry and Center for Organic Photonics and Electronics, Georgia Institute of Technology, Atlanta, GA 30332-0400, USA

[b]CREOL & FPCE, The College of Optics and Photonics and Department of Physics, University of Central Florida, Orlando, FL 32816-2700

[c]Institute of Solid State Physics, Graz University of Technology, 8010 Graz, Austria

[d]Beckman Institute, California Institute of Technology, Pasadena, CA 91125, USA

[e]Department of Chemistry, University of Arizona, Tucson, AZ 85721, USA

[f]Department of Chemistry, Kent State University, Kent, OH 44242-0001, USA

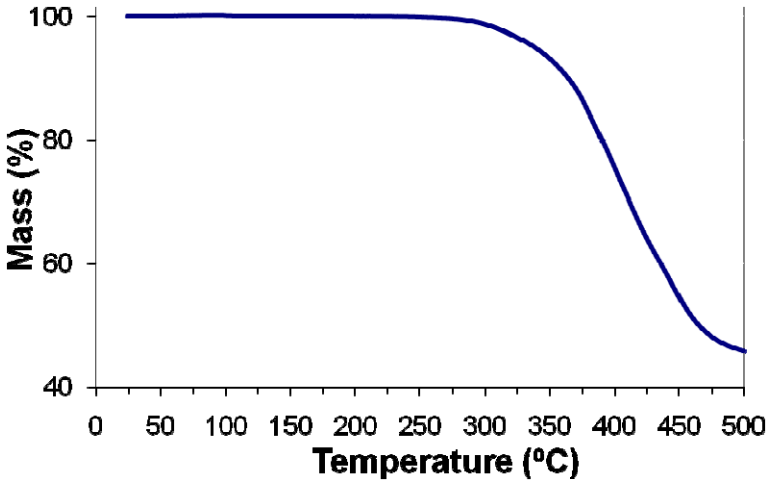

Figure S1. TGA scan of chromophore **1** (5 °C min^{-1}).

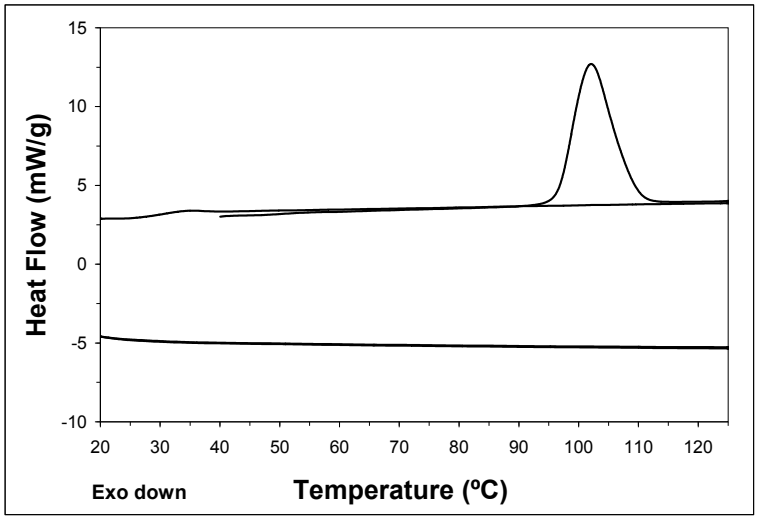

Figure S2. DSC thermogram (10 ºC/min rate for 1st heating-cooling cycle; 5 ºC/min rate for 2nd heating-cooling cycle) showing a melting point of ca. 103 °C on the first heating and a glass transition at ca. 34 ºC on the second heating.

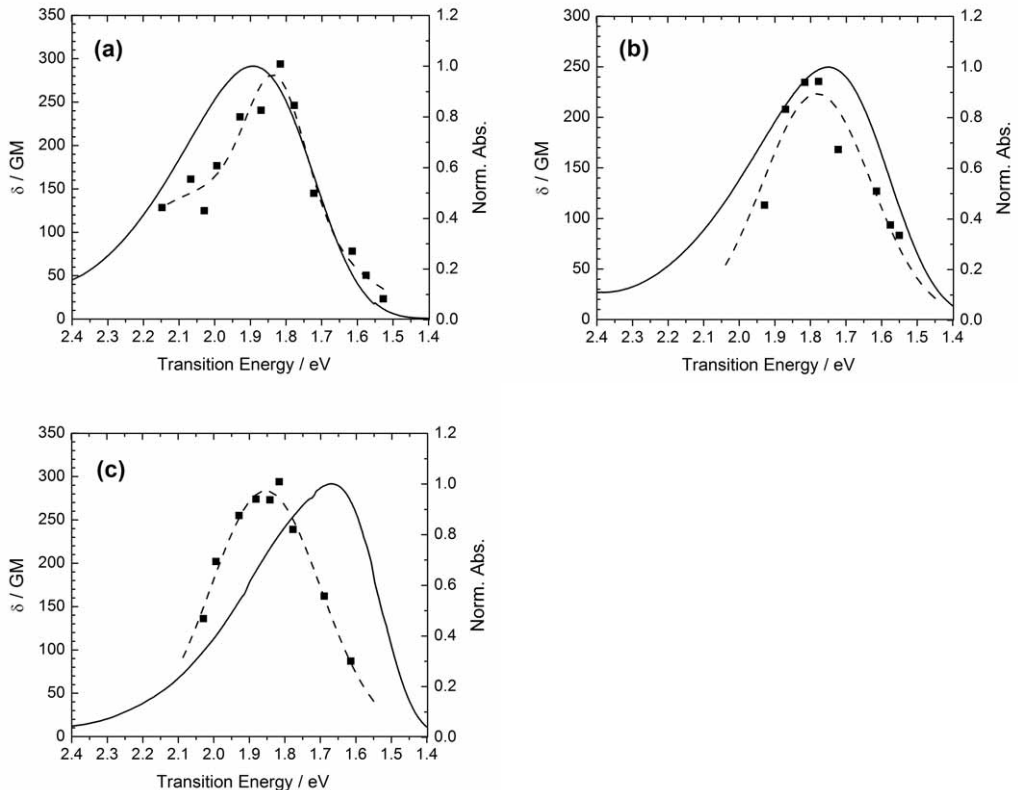

Figure S3. 1PA spectra (solid line) and non-degenerate 2PA spectra acquired using the WLC pump-probe method with a pump wavelength of 1800 nm (solid squares linked with broken lines) for all compounds in THF: (a) **1**, (b) **2**, and (c) **3**. Broken lines used for the non-degenerate 2PA data are meant as guides for the eye. 1 GM = 1×10^{-50} cm^4 sec $phot^{-1}$. Errors associated with experimentally-determined δ values are ±15%.

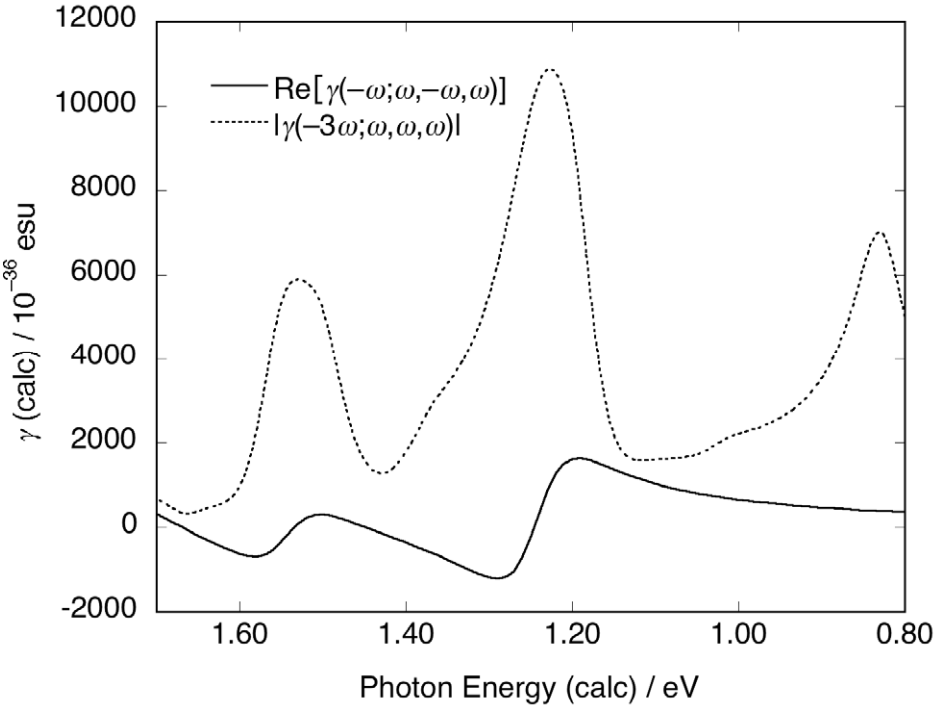

Figure S4. Calculated dispersions of Re[$\gamma(-\omega;\omega,-\omega,\omega)$] and of the absolute magnitude of $\gamma(-3\omega;\omega,\omega,\omega)$ for **1** over a wider energy range than that shown in Figure 7. Several resonances due to multi-photon enhancements are visible.