

Publications-Journal Articles

- 70) Mausle, S., Agarwala, N., Eichmann, V., Dau, H., Nurnberg, D. and **Hastings, G.** (2023) Nanosecond Time-Resolved Infrared Spectroscopy for the Study of Electron Transfer Photosystem I. *Photosynthesis Research*. In press. <https://doi.org/10.21203/rs.3.rs-2898981/v1>
- 69) Neva Agarwala and **Gary Hastings** (2023) Time-resolved FTIR Difference Spectroscopy for the Study of Photosystem I with High Potential Naphthoquinones Incorporated into the A₁ Binding Site 2. Identification of Neutral State Quinone Bands. *Submitted, Photosynthesis Research*. In press. <https://doi.org/10.21203/rs.3.rs-2810019/v1>
- 68) Leyla Rohani, Hari Lamichhane and **Gary Hastings.** (2023) Calculated Vibrational Properties of Pigments in Protein Binding Sites 2: Semiquinones in Photosynthetic Proteins. *Spectrochimica Acta A. Molecular and Biomolecular Spectroscopy*, Vol. 295, 122518. <https://doi.org/10.1016/j.saa.2023.122518>
- 67) Neva Agarwala, Hiroki Makita and **Gary Hastings** (2023) Time-Resolved FTIR Difference Spectroscopy for the Study of Photosystem I with High Potential Naphthoquinones Incorporated into the A₁ Binding Site. *Biochim Biophys Acta Bioenergetics*. **1864**, 1, 148918.
- 66) **Gary Hastings**, Syed Lal Badshah, Nan Zhao and Kevin Redding (2023) The A₋₁ Pigment in Photosystem I Contributes to (P700⁺ – P700) FTIR Difference Spectra. In: *Photosynthesis: From Plants to Nanomaterials*. Chapter 5. Eds: Harvey Hou and Suleyman Allakhverdiev. Elsevier. In press.
- 65) Neva Agarwala, Leyla Rohani and **Gary Hastings** (2021) Experimental and Calculated Infrared Spectra of Disubstituted Naphthoquinones. *Spectrochim. Acta A: Molecular and Biomolecular Spectroscopy*, **268**, 120674.
- 64) Mohammad Pabel Kabir, Yoelvis Orozco-Gonzalez, **Gary Hastings** and Samer Gozem (2021) The effect of hydrogen-bonding interactions on the infrared vibrational spectrum of flavin. *Spectrochim. Acta A: Molecular and Biomolecular Spectroscopy*, **262**, 120110. <https://doi.org/10.1016/j.saa.2021.120110>
- 63) Rohani, L. and **Hastings, G.** (2021) Assessment of the orientation and conformation of pigments in protein binding sites from infrared difference spectra. *Biochim Biophys Acta Bioenergetics*. **1862**, 4, 148366. <https://doi.org/10.1016/j.bbabi.2020.148366>
- 62) Neva Agarwala, Hiroki Makita, Lujun Luo, Wu Xu and **Gary Hastings** (2020) Reversible inhibition and reactivation of electron transfer in photosystem I. *Photosynth. Res.* 145, 97–109.
- 61) Makita, H. & **Hastings, G.** (2020) Time-resolved FTIR difference spectroscopy for the study of quinones in the A₁ binding site in photosystem I: Identification of neutral state quinone bands. *Biochim Biophys Acta Bioenergetics*. **1861**, 5-6, 148173.
- 60) Neve Agarwala, Daniel Ranke, Leyla Rohani and **Gary Hastings** (2019) Calculated and Experimental Infrared Spectra of Substituted Naphthoquinones *Frontiers in Science Technology Engineering and Mathematics* Vol. 3, Issue 2, 71-80. ISSN 2575-1387 (Print), ISSN 2575-1395 (Online).

- 59) Leyla Rohani and **Gary Hastings** (2019)
Vibrational Properties of Quinones in the A₁ Binding Site of Photosystem I Calculated Using a Three-Layer ONIOM Method.
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ISSN 2575-1387 (Print), ISSN 2575-1395 (Online).
- 58) **Gary Hastings**, Hiroki Makita Learnmore Shenje and Susanne Ullrich (2019)
Femtosecond Time-resolved Spectroscopy for the Study of Photosystem I at 77 K.
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ISSN 2575-1387 (Print), ISSN 2575-1395 (Online).
Voted best paper in this issue. Work is highlighted on front cover of journal.
- 57) Hiroki Makita and **Gary Hastings** (2019)
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Fourier Transform Visible and Infrared Difference Spectroscopy for the Study of P700 in Photosystem I from *Fischerella Thermalis* PCC 7521 Cells Grown in White Light and Far Red Light. Evidence that the A₁ Cofactor is a Chlorophyll *f* Molecule.
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- 54) Santabarbara, S., Casazza, A. and **Hastings, G.** (2019)
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- 53) Hiroki Makita and **Gary Hastings** (2018)
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- 52) Sampath Gamage, Marquez Howard, Hiroki Makita, **Gary Hastings**, Brendan Cross, Gary Hastings, Ming Luo and Yohannes Abate (2018)
Probing Structural Changes Required for Membrane Fusion in Single Enveloped Virus Particles Using Nano-Infrared Spectroscopic Imaging.
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- 51) Hiroki Makita and **Gary Hastings** (2018)
Nanosecond time-resolved absorption difference spectroscopy for the study of carotenoid triplet states in photosystem I photosynthetic reaction centers.
Frontiers in Science Technology Engineering and Mathematics 2, 2, 138-147.
ISSN 2575-1387 (Print), ISSN 2575-1395 (Online).
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- 50) Leyla Rohani and **Gary Hastings** (2018)
Vibrational Frequency Calculations of Phylloquinone in the A₁ binding site: Layer Selection in ONIOM Methods.
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- 49) **Gary Hastings**, Jodian Thomas, Keillor Witt and Reza Razeghifard (2018)

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- 47) Hiroki Makita and **Gary Hastings** (2017)
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- 43) Hiroki Makita and **Gary Hastings** (2015)
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- 42) Hiroki Makita, Nan Zhao and **Gary Hastings** (2015).
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- 41) **Gary Hastings** (2015)
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- 40) Nan Zhao and **Gary Hastings** (2013)
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- 39) Nan Zhao, Hari P Lamichhane, **Gary Hastings** (2013)
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- 36) Hari Lamichhane and **Gary Hastings** (2011)
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- 35) Hari Lamichhane, Ruili Wang and **Gary Hastings** (2011)
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- 34) **Gary Hastings**, Peter Krug, Ruili Wang, Jing Guo, Hari Lamichhane, Tian Tang, Yu-sheng Hsu, John Ward, David Katz and Julia Hilliard (2009)
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- 33) Sreeja Parameswaran, Ruili Wang, and **Gary Hastings** (2008)

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- 32) **Gary Hastings**, Ruili Wang, Peter Krug, David Katz and Julia Hilliard (2008)
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- 30) **Gary Hastings**, K. M. P. Bandaranayake and Enrique Carrion (2008)
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- 29) Ruili Wang, Sreeja Parameswaran and **Gary Hastings** (2007)
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- 26) K. M. P. Bandaranayake, Ruili Wang and **Gary Hastings** (2006)
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- 25) G. Ariyawansa, M. B. M. Rinzan, S. G. Matsik, A. G. U. Perera, **Gary Hastings**, H. C. Liu, M. Buchanan, G. I. Sproule, V. I. Gavrilenko, and V. P. Kuznetsov (2006)
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- 24) Velautham Sivakumar, Ruili Wang and **Gary Hastings** (2005)
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