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Chemical Engineering, IT, 2009

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## *Charge Transfer Dynamics of Porphyrin*

My research will explore exciton mobility within the electron donor platinum (II) octaethylporphyrin (PtOEP). A thin film of PtOEP will be created through vapor deposition. Using ultrafast pump-probe laser spectroscopy, I can analyze this specific exciton mobility. To understand these exciton decay lengths, an electron acceptor such as 3,4,9,10-perylenetetracarboxylic bis-benzimidazole (PTCBI) will be added to the porphyrin. When the porphyrin (electron donor) gets excited, the exciton transfers to the PTCBI (electron acceptor). This transfer extends the decay length of the exciton. Understanding this increase in decay length can ultimately lead to more efficient energy harvesting techniques in solar cells.



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