Multiple exciton generation (MEG) is a process whereby the absorption of a single high-energy photon generates two or more excitons. By generating multiple excitons, MEG has potential to enhance power conversion efficiency of a solar cell up to 44%, well exceeding the Shockley-Queisser (S-Q) limit of 31% for a single junction solar cell. Many studies show that MEG occurs in nanostructured materials including inorganic nanocrystals and conjugated molecules. The latter is named as singlet fission (SF). Here, I will discuss MEG that occurs in both single particle (molecule) and in coupled particles (molecules), and discuss their potential applications in efficient solar cells.

Savory sustenance will be supplied.