Disentangling exciton dissociation pathways in the non-fullerene acceptor Y6

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The development of new materials for solar energy harvesting requires control of both molecular structure and intermolecular chromophore interactions. While interaction-induced charge generation in single compounds has long been recognized, the unusually high yield of photogenerated charges in films of the non-fullerene acceptors such as Y6 has renewed interest in its photophysics. I will show how optical signatures of interactions can be identified in absorption, photoluminescence and femtosecond transient absorption spectroscopy, and discuss the implications for interpreting charge generation models.