

Synthesis and Photophysical Properties
of Porphyrin-Fullerene Hybrids
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There has been substantial interest in dyads in which C_{60} is covalently linked to electron donor molecules that absorb strongly in the visible region. With this in mind, the goal is to synthesize a molecule with a fullerene covalently linked to a tetraphenylporphyrin using a flexible linker (see Figure). These novel compounds have been fully characterized. The synthesis, as well as photophysical properties, including quantum yields for formation of singlet oxygen, fluorescence quenching, fluorescence lifetimes, and forward and back electron transfer rates will be reported for both the free base and Zn-complexed dyads. The use of various techniques, including ^3He NMR, to monitor intramolecular interactions in these systems will also be discussed. Financial support from NSF is greatly acknowledged.

