

From Photochemistry to Light-powered Molecular Machines

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By adopting an incrementally staged design strategy, photoinduced processes can be engineered within multicomponent (supramolecular) species with the purpose of obtaining light-powered molecular machines. Like their macroscopic counterparts, nanoscale machines need energy to operate. Although most molecular machines of the biological world are fueled by chemical reactions, light is a very good choice to power artificial molecular machines because it can also be used to monitor the state of the system and makes it possible to obtain machines that show autonomous operation and do not generate waste products.