

Better Organic Synthesis with Light

Light is an ideal reagent for organic synthesis. It provides energy to overcome activation barriers of reactions or even enable endothermic transformations. Photons can be used in large excess to drive a reaction to completion, but they will leave no trace. Visible or UV-A light is safe and non-toxic and easily generated with modern light sources, such as LEDs. The last two decades have seen the development of many synthetic methods that use sensitized or direct photochemistry to enable organic reactions at milder conditions, but also open new reaction pathways which are impossible in thermal chemistry.