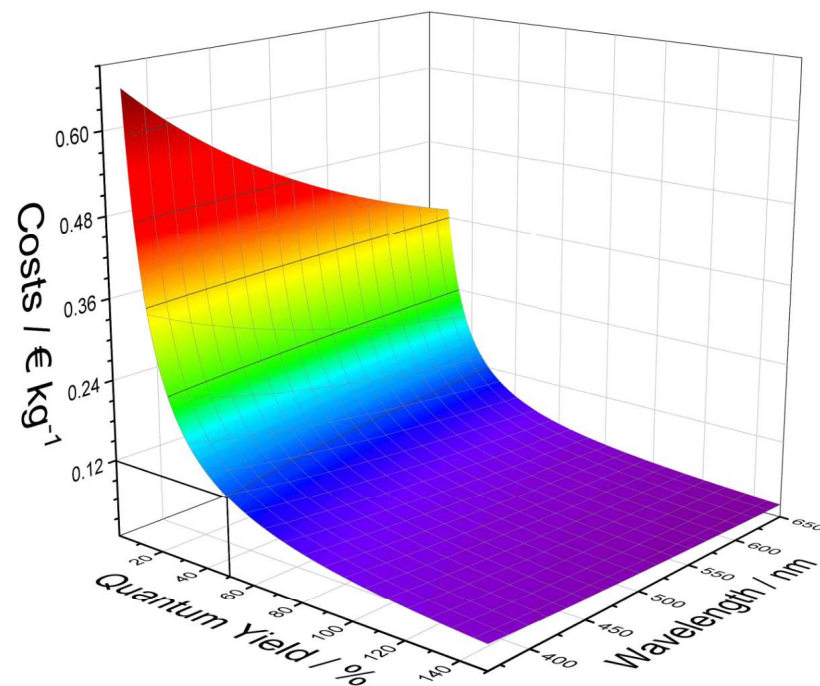


# Photochemistry for a sustainable and carbon neutral chemical industry

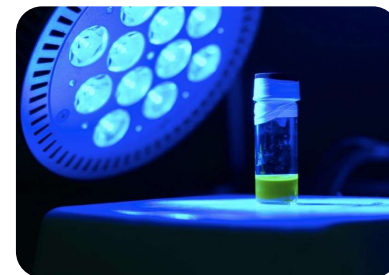
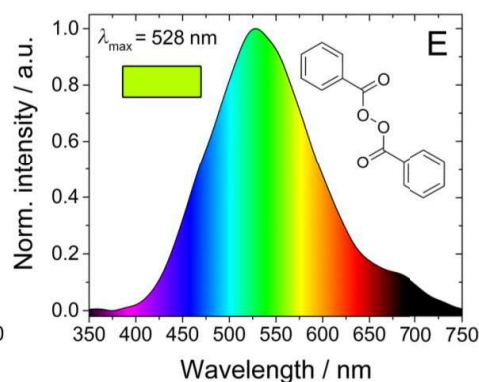
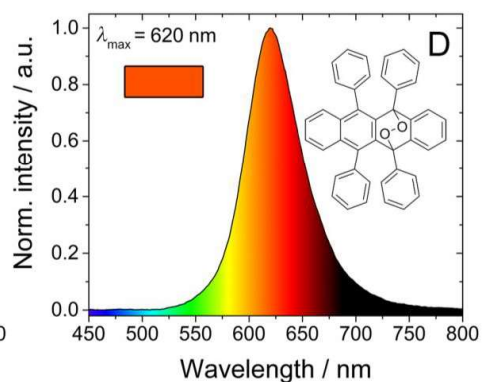
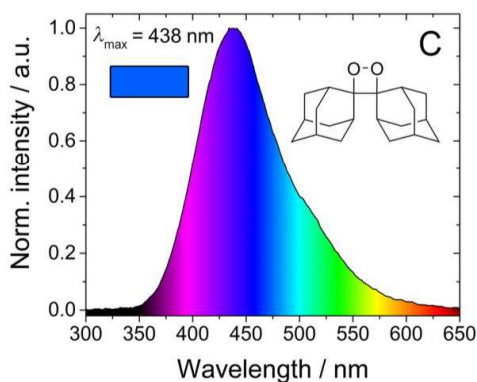


- Photochemistry is intrinsically electrified
- Efficient light generation through modern "high power LEDs"
- Can potentially be powered 100% by energy from renewable sources
- Ideally enables CO<sub>2</sub> neutral chemical processes
- Photo redox chemistry enables game changing reactions like: CO<sub>2</sub> reduction and N<sub>2</sub> fixation



- To drive a Photochemical reaction economically a good quantum yield is needed
- Necessity to develop stable and efficient photocatalysts

# Photochemistry for Novel Peroxides



S. Schramm, D. P. Karothu, N. M. Lui, P. Commins, E. Ahmed, L. Catalano, L. Li, J. Weston, K. M. Solntsev, P. Naumov, *Nature Communication*, **2019**, 10, 997, 2019

