Exercises, Photochemistry 2021

June 9, 2021

Photochemistry of halogenides, diazo compounds and oxidations

1. Explain the reaction mechanism of the following photochemical reactions:



*Tetrahedron Lett.* **1975**, 943.



*Chem. Lett*. **1978**, 1251.

2. Draw the structures of photoproducts and explain the reaction mechanisms in the following examples of photochemical elimination of nitrogen:



*J. Org. Chem.* **1987**, *52*, 5498.



*J. Am. Chem. Soc.* **1987**, *109*, 7074.



*Synth. Commun.* **1984**, *14*, 21.

3. In the following photochemical reactions explain the reaction mechanisms.



*Tetrahedron Lett.* **1989**, *30*, 1935.



*Tetrahedron Lett.* **1988**, *29*, 749.

4. In the following examples of photooxygenations, explain the reaction mechanisms.



*J. Am. Chem. Soc.* **1980**, *102*, 6083.



*J. Am. Chem. Soc.* **1980**, *102*, 4275.

5. In the following examples, propose the mechanism of photoreactions.



*Tetrahedron Lett.* **1978**, 3287.



*J. Chem. Soc. Perkin Trans. I*, **1979**, 1806.

6. Draw the structures of photoproducts in the following reactions with singlet oxygen.



*Helv. Chim. Acta*, **1982**, *65*, 887.



*Chem. Ber.* **1985**, *118*, 3357.