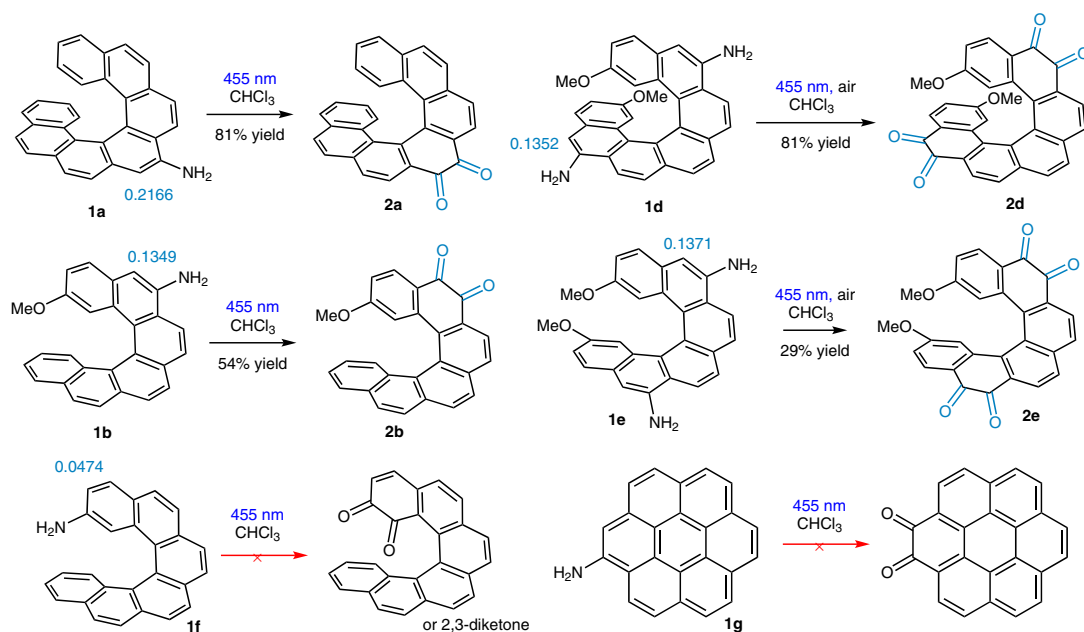


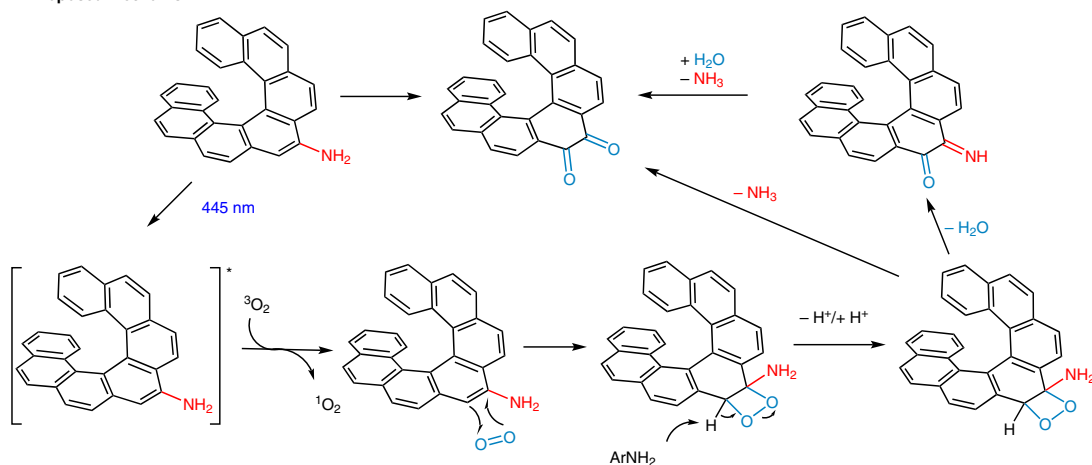
M. JAKUBEC, S. HANSEN-TROØYEN, I. CÍSAŘOVÁ, J. SÝKORA*, J. STORCH* (INSTITUTE OF CHEMICAL PROCESS FUNDAMENTALS OF THE CZECH ACADEMY OF SCIENCES, PRAGUE, CZECH REPUBLIC)

Photochemical Oxidation Specific to Distorted Aromatic Amines Providing *ortho*-Diketones
Org. Lett. 2020, 22, 3905–3910.

Aminohelicenes to Helical *ortho*-Diketones



Proposed mechanism:



Significance: In this paper, the authors reported a straightforward photochemical oxidation of aminohelicenes to provide helical *ortho*-diketones. This reaction is specific to distorted aromatic systems and the key step is a [2+2] cycloaddition of amine with singlet oxygen. The reactivity of prepared diketones was explored and demonstrated their potential application in developing functional molecules based on helicenes.

Comment: The reaction worked efficiently when amines were substituted at internal rings of the helicenes, whereas the reaction yield decreased to zero when amines were located at terminal rings. The reaction yield also depends on the number of conjugated aromatic rings. When moving from [7]helicenes to [6]helicenes, the reaction yield decreased. The main reason for these results is the degree of distortion of the amino-substituted benzene ring.

SYNFACTS Contributors: Timothy M. Swager, Hanshen Xin
Synfacts 2020, 16(07), 0784 Published online: 17.06.2020
DOI: 10.1055/s-0040-1707053; Reg-No.: S06020SF