

Terarylene photoacid and photobase generators

Colin J. Martin¹, Miho Minamide², Takuya Nakashima²,
Gwénaél Rapenne^{1,3}, Tsuyoshi Kawai^{1,2}

¹International Collaborative Laboratory for Supraphotoreactive Systems, NAIST-CEMES, CNRS
UPR 8011, 29 rue J. Marvig, F-31055 Toulouse, France

³Graduate School of Materials Science, Nara Institute of Science and Technology, NAIST,
8916-5 Takayama-cho, Ikoma, Nara, 630-0192, Japan

²Université de Toulouse, UPS, CEMES, 29 rue J. Marvig, F-31055 Toulouse, France

E-mail: colinmtn@rsc.naist.jp

Photoacid and photobase generators are systems which, under controlled illumination, undergo reactions or dissociations leading to the formation of a specific acid or base photoproduct, either in solution or the solid state.

Recently we reported the development of highly sensitive, neutral, photoacid generators based on photochromic terarylene frameworks.^[1,2] Here we present recent synthetic, computational and photophysical investigations into the expansion of these systems to allow for the formation of stronger acids as well as attempts to expand this methodology towards photobases. This has been achieved through the selective substitution of core terarylene backbones (Fig. 1) to direct photocyclisation leading to the spontaneous release of the desired acid/base molecules.

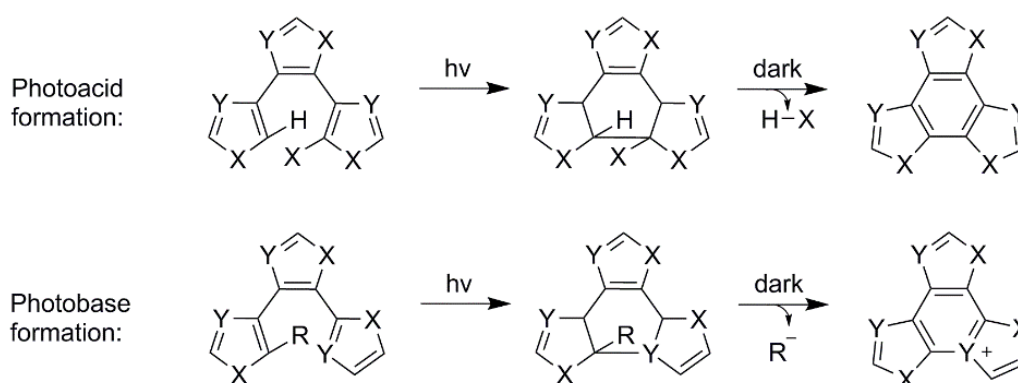


Figure 1. General terarylene frameworks for photoacid and photobase formation.

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References:

- [1] T. Nakashima, T. Kawai *et al.*, *J. Am. Chem. Soc.*, **2015**, 137, 7023.
- [2] R. Li, T. Nakashima, R. Kanazawa, O. Galangau, T. Kawai, *Chem. Eur. J.*, **2016**, 22, 16250.