

LASER FLASH STUDY ON PHOTOREACTION OF
3-SUBSTITUTED 5,5-DIARYL-4,5-DIHYDROFURANS

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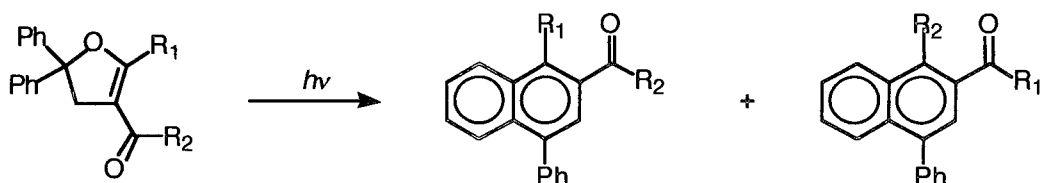
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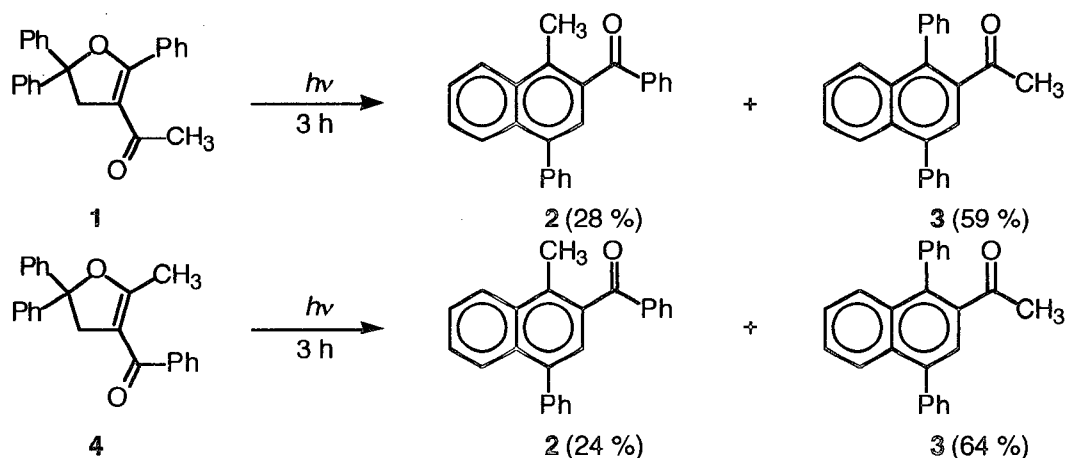
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We found the formation of naphthalene derivatives by irradiation of 3-acyl-5,5-diaryl-4,5-dihydrofurans [1]. The reaction should be multi-step and might start with the dissociation of C-O bond of the dihydrofuran ring, but it is not clear whether radicals and/or ions are



intervened among the reactive intermediates or not. By the irradiation of **1** and **4** the product ratios of **2/3** was very similar and the reactive intermediates might be identical.



We measured the electronic spectra of the transient species from **1** and **4** irradiated by laser flash of 266 or 308 nm. The spectra of the transient species just after flashing were not identical and the one from **1** has the maxima at 400 and 850 nm which were decayed with $4.0 \times 10^6 \text{ sec}^{-1}$ and the other from **4** has weaker maximum at 550 nm the decay of which was $2.6 \times 10^7 \text{ sec}^{-1}$.

We will discuss about the reaction mechanism studied by laser flash photolysis in more detail.

[1] Hiroshi Nishino, Shougo Kajikawa, Yukiko Hamada, and Kazu Kurosawa, *Tetrahedron Lett.* **36**, 5753-5756 (1995).