# Supporting Information

## Study of a Two-stage Photobase Generator (PBG) for Photolithography in Microelectronics.

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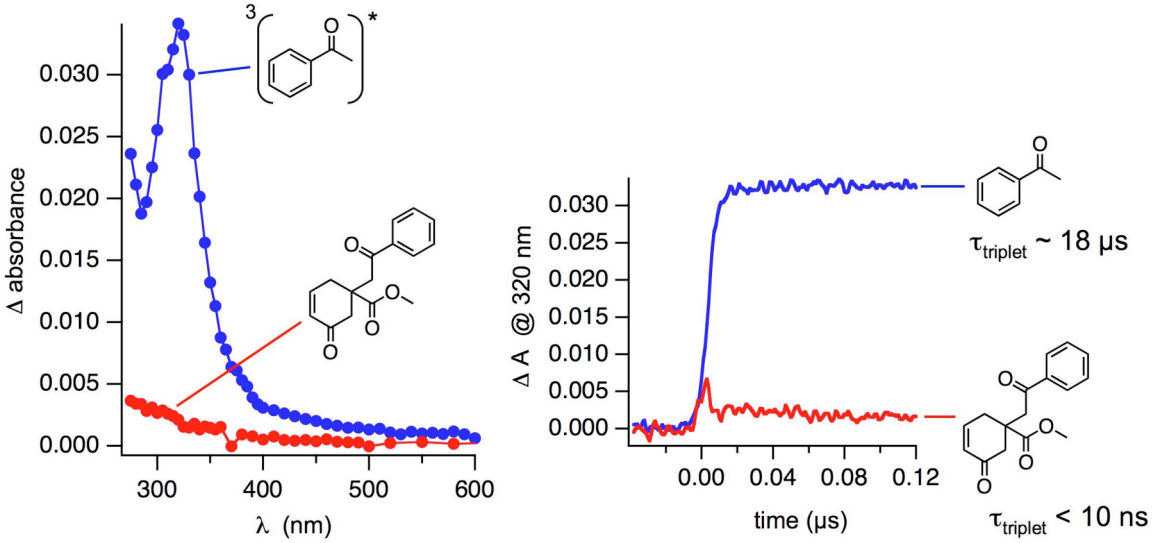


**Figure S1.** Laser flash photolysis of **1M** (red) and **3** (blue) in deoxygenated acetonitrile solutions using a pulsed laser ($\lambda_{ex}$ = 266 nm, 5 ns pulse length). Left: transient absorption spectra at the end of the laser pulse. Right: kinetic traces monitored at 320 nm.

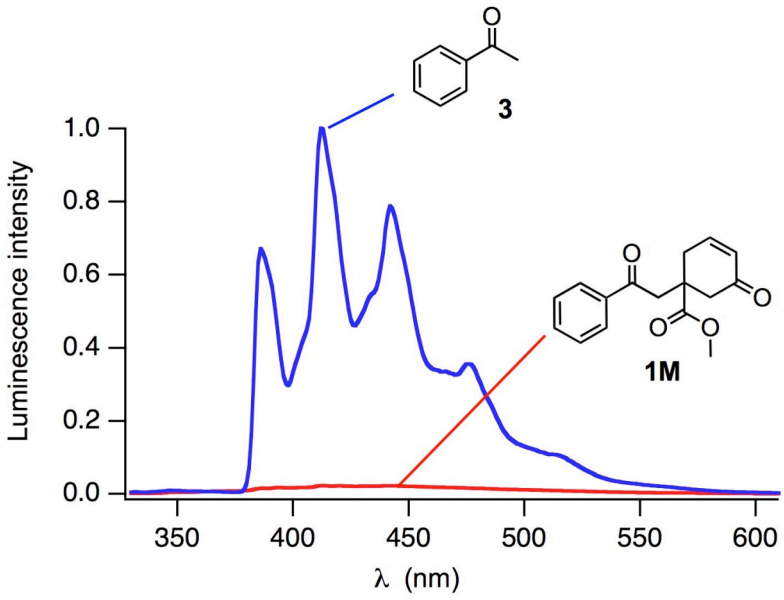


**Figure S2.** Low-temperature luminescence spectra of **1M** (red) and **3** (blue) in ethanol matrix at 77 K (quartz liquid nitrogen dewar) with matching absorbances at the excitation wavelength of $\lambda_{ex}$ = 315 nm. Suprasil quartz tubes (3 mm inner diameter) as sample containers.

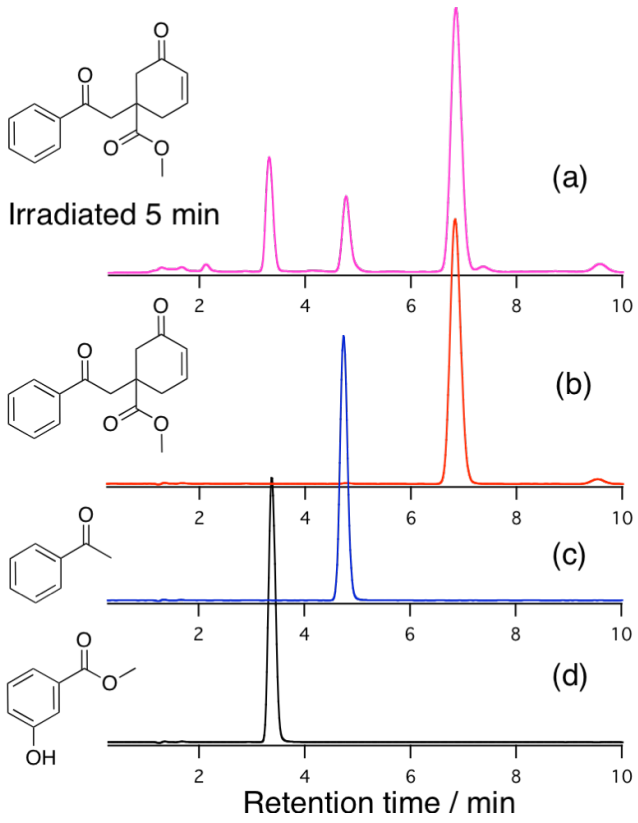


**Figure S3**. Identification of photoproducts of **1M** by HPLC. (a) **1M** (5mM) after irradiation in $CH_3CN$ for 5 min at 300 nm; (b) **1M**; (c) acetophenone; (d) methyl-3-hydroxylbezoate. HPLC conditions: isocratic, water: $CH_3CN$= 70:30, PDA detector @ 288 nm.

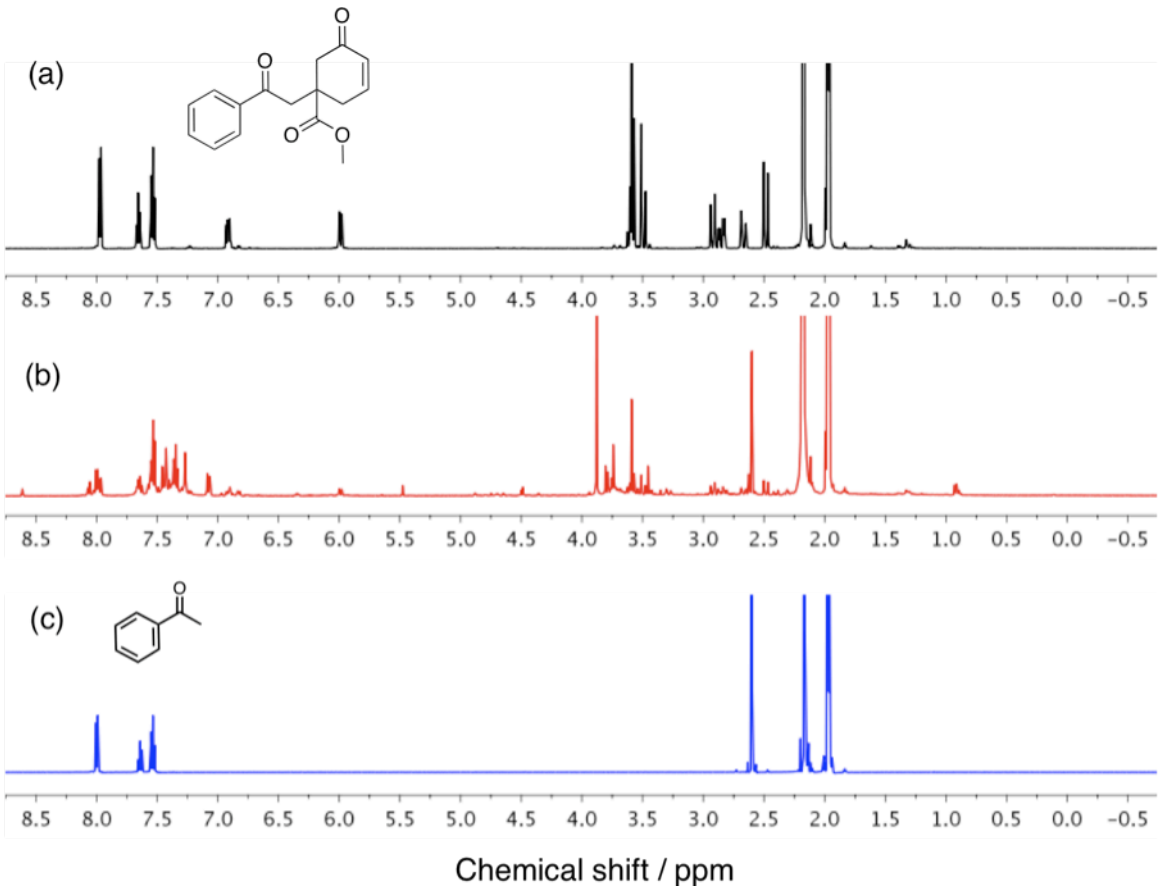


**Figure S4**. $^{1}$H NMR spectra of **1M** (5 mM) (a), **1M** after irradiated for 20 min (b) and acetophenone (c). All spectra were taken in $CD_3CN$.

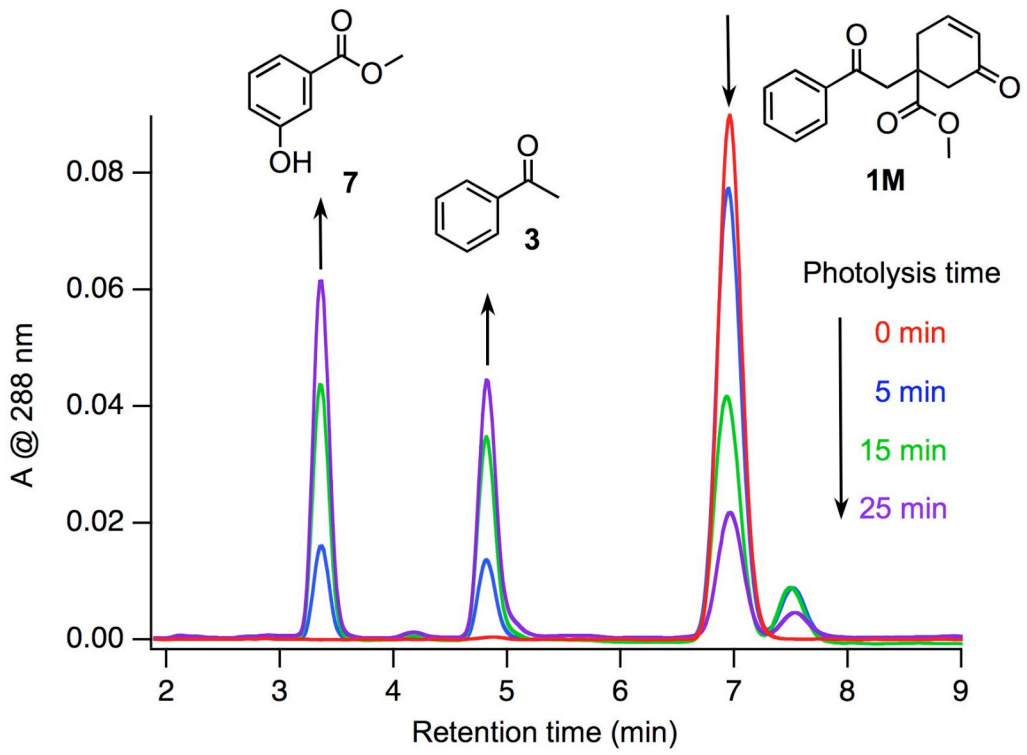


**Figure S5.** HPLC analysis of photolysis at 254 nm of **1M** (5 mM) in deoxygenated acetonitrile solutions. HPLC conditions: isocratic, water: $CH_3CN$= 70:30, PDA detector @ 288 nm.

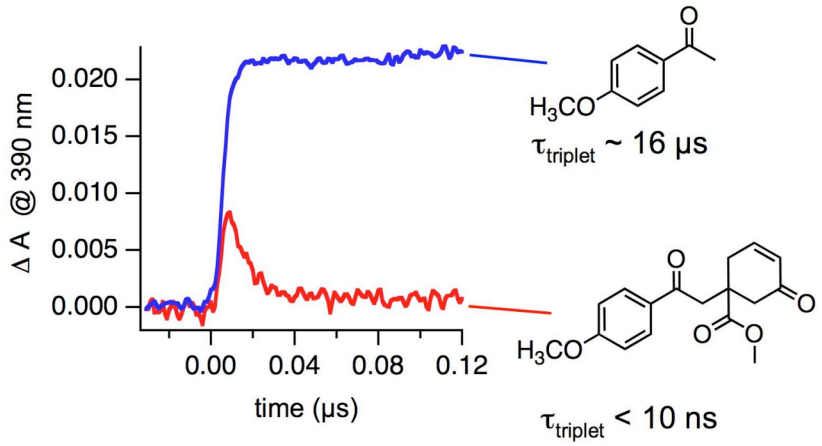


**Figure S6.** Laser flash photolysis of *p*-$OCH_3$-**1M** (red) and *p*-$OCH_3$-AP (blue) in deoxygenated acetonitrile solutions using a pulsed laser ($\lambda_{ex}$ = 266 nm, 5 ns pulse length). Kinetic traces monitored at 390 nm.

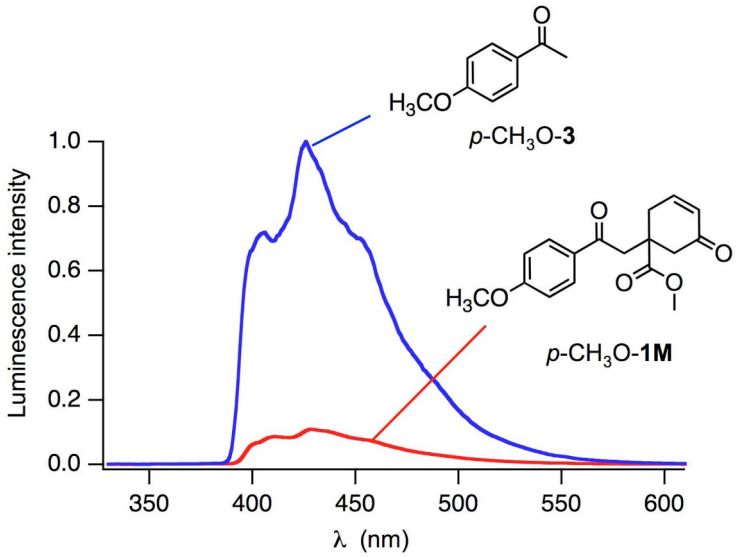


**Figure S7.** Low-temperature luminescence spectra of *p*-$OCH_3$-**1M** (red) and *p*-$OCH_3$-AP (blue) in ethanol matrix at 77 K (quartz liquid nitrogen dewar) with matching absorbances at the excitation wavelength of $\lambda_{ex}$ = 275 nm. Suprasil quartz tubes (3 mm inner diameter) as sample containers.

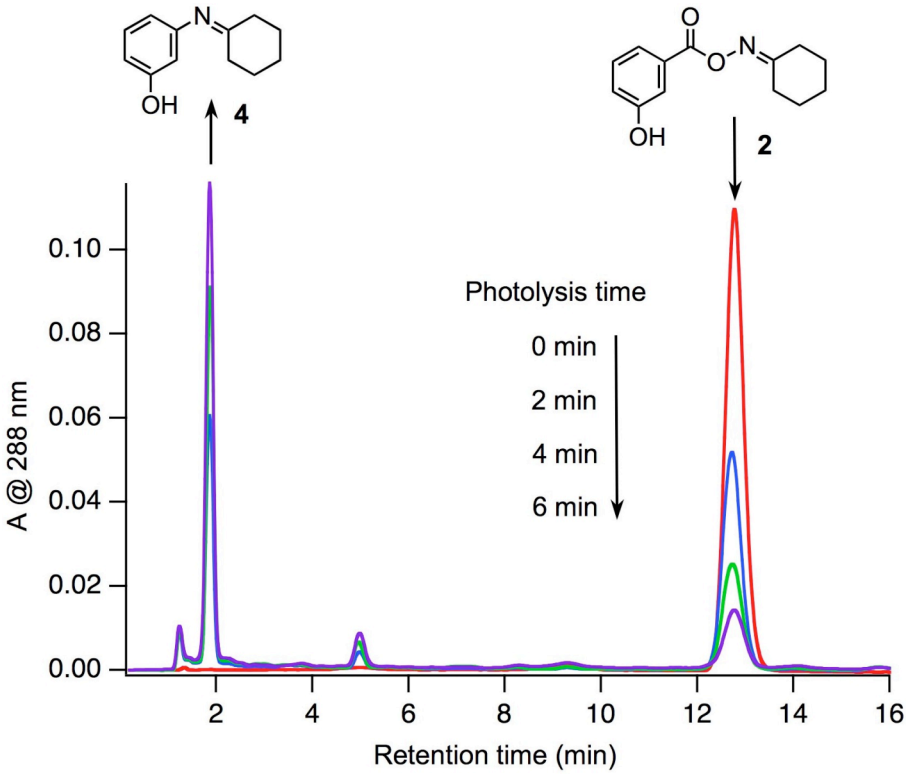


**Figure S8.** HPLC analysis of photolysis at 254 nm of **2** (5 mM) in deoxygenated acetonitrile solutions. HPLC conditions: isocratic, water (0.1% TFA): $CH_3CN$= 70:30, PDA detector @ 288 nm.

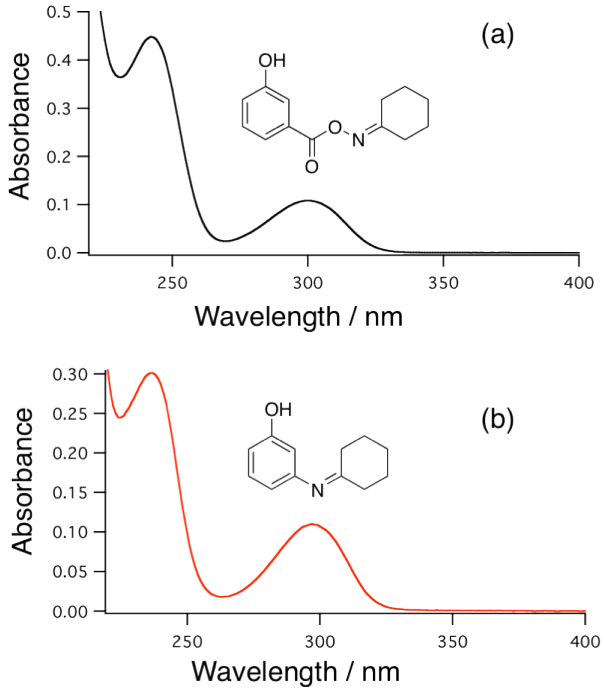


**Figure S9**. UV absorption spectra extracted from HPLC traces (Figure S8) using the PDA detector of photolysis of **2** at 254 nm; (a) **2**, (b) **4**.

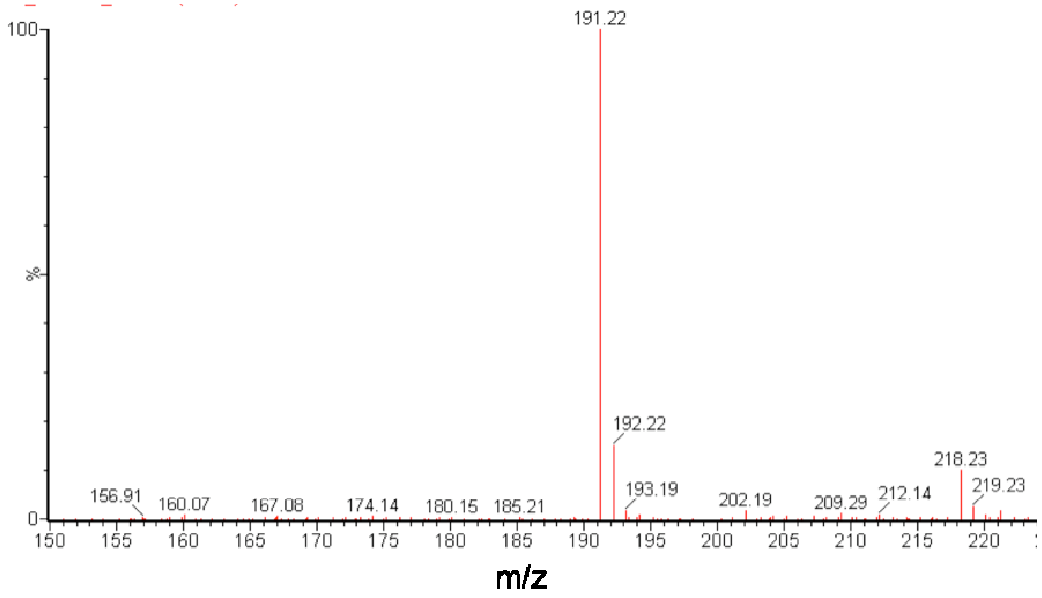


**Figure S10**. HPLC-MS identification of photoproduct **4** after photolysis of **2** at 254 nm for 6 min (see Figure S8).

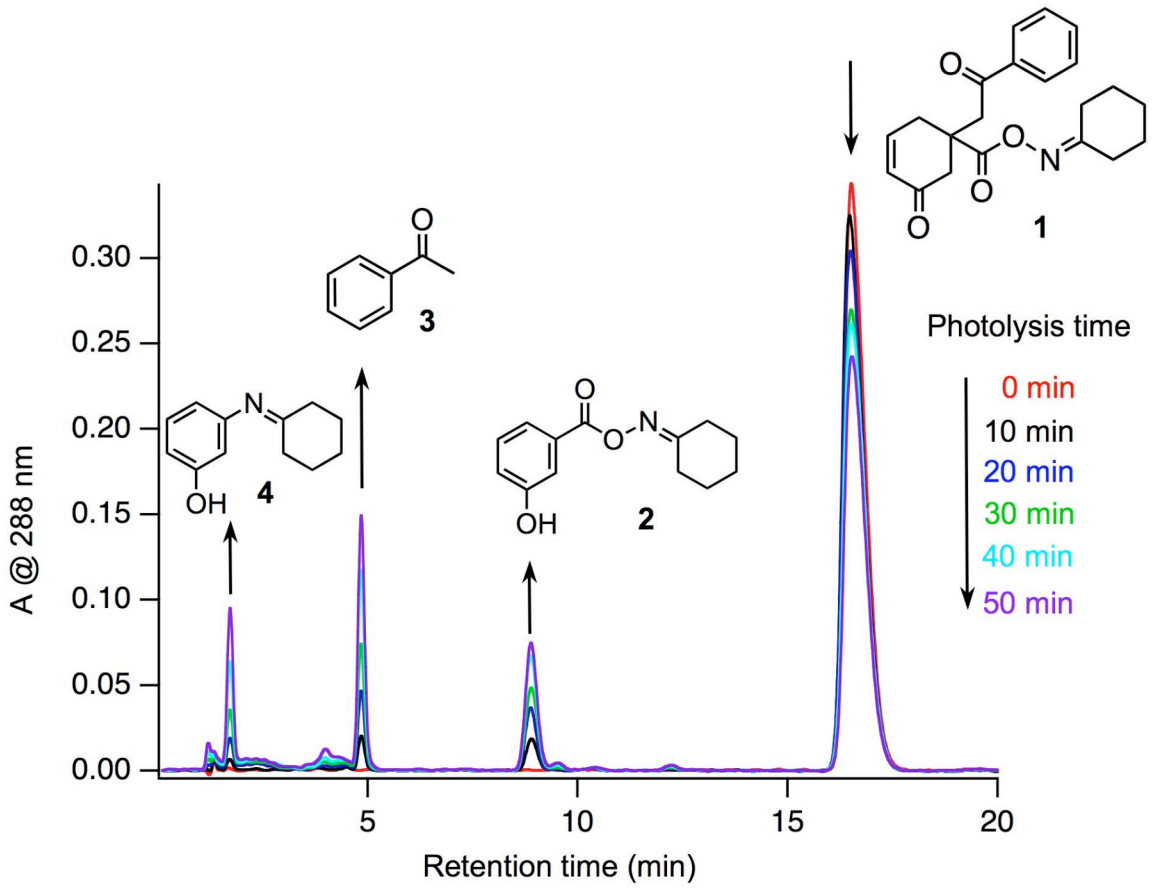


**Figure S11.** HPLC analysis of photolysis **1** (25 mM) at 254 nm of in deoxygenated acetonitrile solutions. HPLC conditions: isocratic, water (0.1% TFA): $CH_3CN$= 70:30, PDA detector @ 288 nm.