Supporting Information

A Fast Kinetics Study of the Reactions of Transient Silylenes with Alcohols. Direct Detection of Silylene-Alcohol Complexes in Solution.

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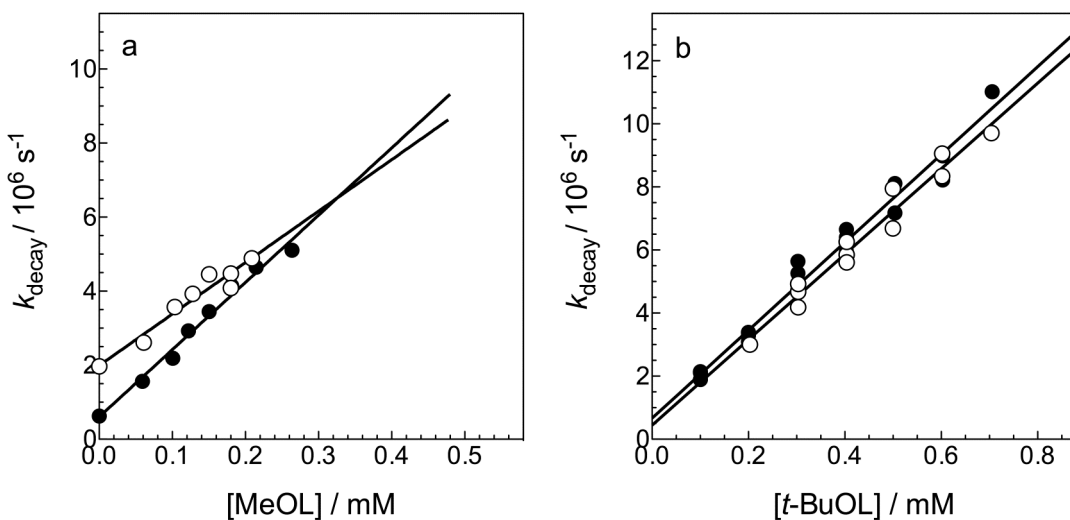*1280 Main Street West, Hamilton, ON, Canada L8S 4M1.*

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Figure S1. Plots of the pseudo-first order decay rate coefficients (k_{decay}) of SiPh$_2$ *vs.* [ROL] (L = H (●) or D (○)) for (a) R = Me and (b) R = *t*-Bu, in hexanes at 25 °C. The solid lines are the best linear least squares fits of the data to equation 3. The data were obtained in the same experiments as those represented in Figure 3 of the paper.
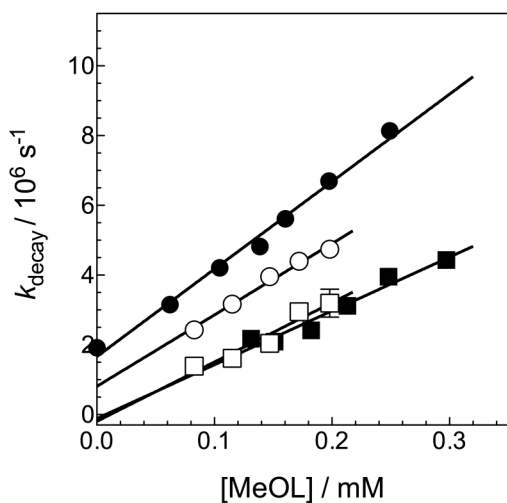

Figure S2. Plots of the pseudo-first order rate coefficients (k_{decay}) for the decay of free SiMe$_2$ (λ_{max} = 465 nm; L = H (●) and D (○)), and of the SiMe$_2$-MeOL complex (monitored at 310 nm; L = H (■) and D (□)), *vs.* [MeOL]. The solid lines are the best linear least squares fits of the data to equation 3.

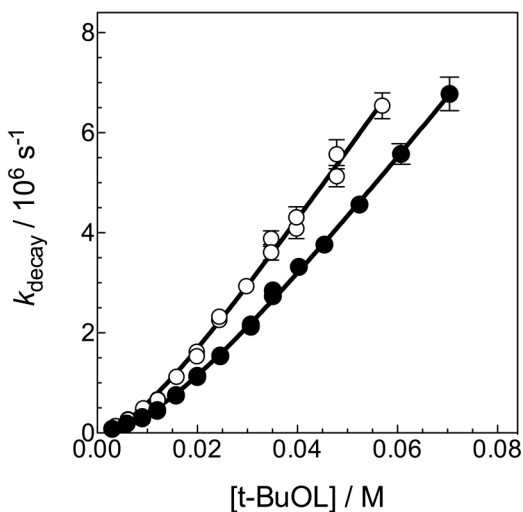**Figure S3**. Representative plots of the pseudo-first order rate coefficients for the decay of SiMes$_2$ *vs*. [*t*-BuOL] (L = H, (●) or D (○)) in hexanes at 25 °C. The solid lines are the best non-linear least squares fits of the data to equation 5.
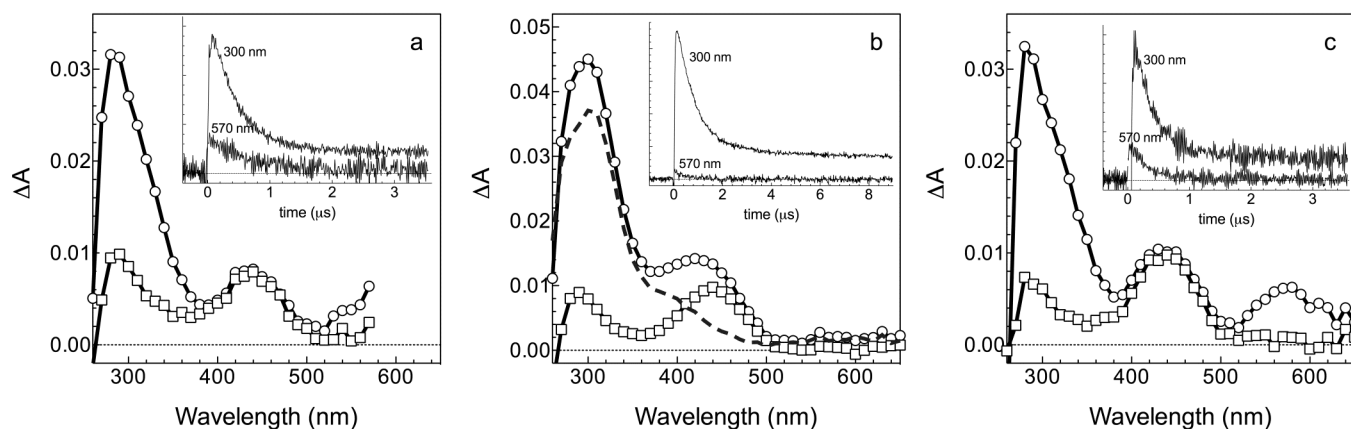

Figure S4. Transient absorption spectra from laser flash photolysis of deoxygenated solutions of SiMes$_2$-precursor **3** (*ca*. 0.06 mM) in hexanes containing (a) 3.9 mM MeOH (recorded 80-110 ns (○) and 0.83-0.85 μs (□) after the laser pulse); (b) 0.6 M THF (recorded 0.58-0.64 μs (○) and 4.58-4.69 μs (□) after the laser pulse); and (c) 0.05 M *t*-BuOH (recorded 110-130 ns (○) and 1.01-1.03 μs (□) after the laser pulse). The dashed line in (b) is the difference spectrum resulting from subtracting the second spectrum from the first. The insets show transient decay traces recorded at monitoring wavelengths of 300 and 570 nm.