

Table 1. Lifetimes, Fluorescence Quantum Yields, and *trans,cis* Isomerization Quantum Yields for *trans*-1,3-Diphenylpropene (t-1)

T (K)	$\tau$ (ns)	$\Phi_{\text{iso}}$	$\Phi_{\text{f}}^{\text{a}}$
342	4.0	0.45	---
316	6.0	0.40	---
298	7.2	0.30	0.28
294	7.4	---	0.23
280	8.5	---	0.29
260	9.6	0.33	0.36
240	10.4	---	0.42
220	11.3	0.33	0.49
210	---	0.31	---
200	---	---	0.56
180	11.1	0.07	0.62
160	11.2	0.17	---
140	11.2	---	0.76
120	11.2	---	0.83

<sup>a</sup> Fluorescence quantum yields are uncorrected. For the correction of fluorescence quantum yields, see the description in the appendix.

Table 2. Lifetimes, Fluorescence Quantum Yields, *trans,cis* Isomerization Quantum Yields, and Di- $\pi$ -methane Rearrangement Product Formation Quantum Yields for *trans*-3-Methyl-1,3-diphenylpropene (t-2)

T (K)	$\tau$ (ns)	$\Phi_{\text{f}}$	$\Phi_{\text{iso}}$	$\Phi_{\text{dir}}$
352	1.0	---	---	---
342	1.0	---	0.26	0.34
316	1.5	---	0.2	0.32
298	1.9	0.08	0.11	0.21
294	1.9	0.10	---	---
280	2.4	0.14	---	---
260	3.2	0.19	---	---
240	4.0	0.26	0.11	0.18
220	5.1	0.36	---	---
200	6.6	0.48	0.066	0.059
180	8.0	0.63	---	---
160	9.3	0.80	0.12	0.037
140	10.2	0.94	---	---
120	10.5	0.97	---	---

Table 3. Lifetimes, Fluorescence Quantum Yields, *trans,cis* Isomerization Quantum Yields, and Di- $\pi$ -methane Rearrangement Product Formation Quantum Yields for *trans*-3,3-Dimethyl-1,3-diphenylpropene (t-3)

T(K)	$\tau$ (ns)	$\Phi_f$	$\Phi_{iso}$	$\Phi_{dir}$
352	0.30	---	0.16	0.57
342	0.42	---	0.13	0.48
316	0.48	---	0.091	0.36
299	0.65	0.041	0.074	0.42
294	0.49	0.054	0.071	0.37
280	0.62	0.072	---	---
260	1.0	0.10	---	---
240	1.4	0.15	0.016	0.31
220	2.1	0.21	---	---
210	2.5	---	0.033	0.15
200	2.9	0.36	---	---
180	4.2	0.47	0.05	0.12
160	5.6	0.73	---	---
150	6.3	---	0.044	0.064
140	8.2	1.06	---	---
120	10.1	1.36	---	---
100	10.1	2.65	---	---
77	10.0	2.69	---	---

Table 4. Lifetimes, Fluorescence Quantum Yields, *trans,cis* Isomerization Quantum Yields, and Di- $\pi$ -methane Rearrangement Product Formation Quantum Yields for *trans*-1,3,3-Tiphenylpropene (t-4)

T (K)	$\tau$ (ns)	$\Phi_f$	$\Phi_{iso}$	$\Phi_{dir}$
350	0.27	---	---	---
345	---	---	0.099	0.28
341	0.34	---	---	---
337	---	---	0.098	0.29
334	0.46	---	---	---
329	---	---	0.086	0.31
325	0.44	---	---	---
322	---	---	0.082	0.31
313	0.54	---	0.079	0.32
298	0.68	0.044	0.059	0.30
295	0.66	0.041	0.056	0.28
280	0.99	---	---	---
260	1.2	0.069	0.042	0.27
240	1.6	0.096	---	---
230	---	---	0.040	0.24
220	2.3	---	---	---
210	---	0.17	---	---
200	3.4	---	0.050	0.20
180	4.6	0.30	---	---
170	---	---	0.072	0.12
160	6.6	---	---	---
150	7.5	---	0.085	0.067
140	8.1	0.63	0.091	0.035
77	9.8	---	---	---