Electronic Supplementary Information

Photoinduced energy and charge transfer in bis(triphenylamine)-BODIPY-C_{60} artificial photosynthetic system

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**Fig. S1** Fluorescence spectra of triad 4 (a) and tetrad 6 (b) in polar DMF and nonpolar TOL upon excitation at 613 nm (BODIPY-part excitation). Optical density of the samples was adjusted to 0.1 at the BODIPY absorption maximum.

**Fig. S2** Fit of the ΔOD signal at 550 nm of triad 4 solved in DMF (a) and TOL (b).

**Fig. S3** Fit of the ΔOD signal at 550 nm of tetrad 6 solved in DMF (a) and TOL (b).

**Fig. S4** Differential pulse voltammetry of tetrad 6 in deaerated DMF in the presence of 0.1 M [n-Bu₄N][ClO₄]. Scan rate = 20 mV s⁻¹.

**Table S1** Vertical transition wavelengths λ_max (nm), transition energies ΔE (eV) and transition contributions calculated at TD-DFT B3LYP/(cc-pVDZ) level.

**Fig. S5** Energy level diagram showing the different photophysical events of tetrad 6 in TOL.

**Fig. S6** ¹H NMR spectrum of 3.

**Fig. S7** ¹³C{¹H} NMR spectrum of 3.

**Fig. S8** HRMS spectrum of 3.

**Fig. S9** ¹H NMR spectrum of 4.

**Fig. S10** ¹³C{¹H} NMR spectrum of 4.

**Fig. S11** HRMS spectrum of 4.

**Fig. S12** ¹H NMR spectrum of 5.
Fig. S13 $^{13}$C\{$^1$H}\ NMR spectrum of 5.

Fig. S14 HRMS spectrum of 5.

Fig. S15 $^1$H NMR spectrum of 6.

Fig. S16 HRMS spectrum of 6.

Fig. S17 $^1$H NMR spectrum of 9.

Fig. S18 MS spectrum of 9.
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Fig. S2 Fit of the ΔOD signal at 550 nm of triad 4 solved in DMF (a) and TOL (b)
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Table S1  Vertical transition wavelengths $\lambda_{\text{max}}$ (nm), transition energies $\Delta E$ (eV) and transition contributions calculated at TD-DFT B3LYP/(cc-pVDZ) level

<table>
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<tr>
<th>Compound</th>
<th>$\lambda_{\text{max}}$ (nm)</th>
<th>$\Delta E$ (eV)</th>
<th>Transitions</th>
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<td>2</td>
<td>535</td>
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<td></td>
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<td>HOMO $\rightarrow$ LUMO+1 (16%)</td>
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<td>353</td>
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<td>568</td>
<td>2.18</td>
<td>HOMO-1 $\rightarrow$ LUMO+3 (95%)</td>
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</table>
Fig. S5 Energy level diagram showing the different photophysical events of tetrad 6 in TOL
In all of the following spectra, the residual solvent signals are marked with asterisks

Fig. S6 $^1$H NMR spectrum of 3
Fig. S7 $^{13}$C-$^1$H NMR spectrum of 3
Fig. S8 HRMS spectrum of 3
Fig. S9 $^1$H NMR spectrum of 4
Fig. S10 $^{13}$C-$^1$H NMR spectrum of 4
Fig. S11 HRMS spectrum of 4
Fig. S12 $^1$H NMR spectrum of 5
Fig. S13 $^{13}$C{$^1$H} NMR spectrum of 5
Fig. S14 HRMS spectrum of 5
Fig. S15 $^1$H NMR spectrum of 6
Fig. S16 HRMS spectrum of 6
Fig. S17 $^1$H NMR spectrum of 9
Fig. S18 MS spectrum of 9