Electronic Supplementary Information

For

Influence of π-bridge dependent molecular configuration on the optical and electrical characteristics for organic solar cells

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Fig. S1. $^1$H NMR spectra of DCATT-L in CDCl$_3$.

Fig. S2. $^{13}$C NMR spectra of DCATT-L in CDCl$_3$.

Fig. S3. ESI-Mass spectra of DCATT-L with the molecular formula of C$_{118}$H$_{152}$N$_2$O$_4$S$_{12}$. 
Fig. S4. TGA curve of DCATT-L with a heating rate of 10 °C min⁻¹ under nitrogen atmosphere.

Fig. S5. Top views of the optimized geometries of the backbones of DCATT and DCATT-L with side chain replaced by methyl.

Fig. S6. UV-vis absorption spectra of blend films of DCATT-L:PC₆₁BM after thermal annealing (red); DCATT:PC₆₁BM with treatment of DIO and annealing (black); and DCATT:PC₆₁BM without any treatment (blue).
Fig. S7. *J-V* curves of vertical diodes with the device structure of ITO/PEDOT:PSS/DCATT-L/Au.