Linker Effects on Exciton Migration and Charge Transfer of Conjugated Polymers

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The femtosecond up-conversion fluorescence measurement showed that **DA1** and **DA3** exhibited a rise process for the energetically downhill excitonic energy transfer (EET) in a timescale of sub-ps to several ps, while **DA2** exhibited a decay process in such downhill EET. **DA2** showed the shortest time constant of ~ 4.6 ps for torsional relaxation. This suggested that the vinylene linker has the fastest torsional relaxation from a flexible ground-state structure to a more rigid planar geometry, which may reduce conformational defects and improve exciton migration.