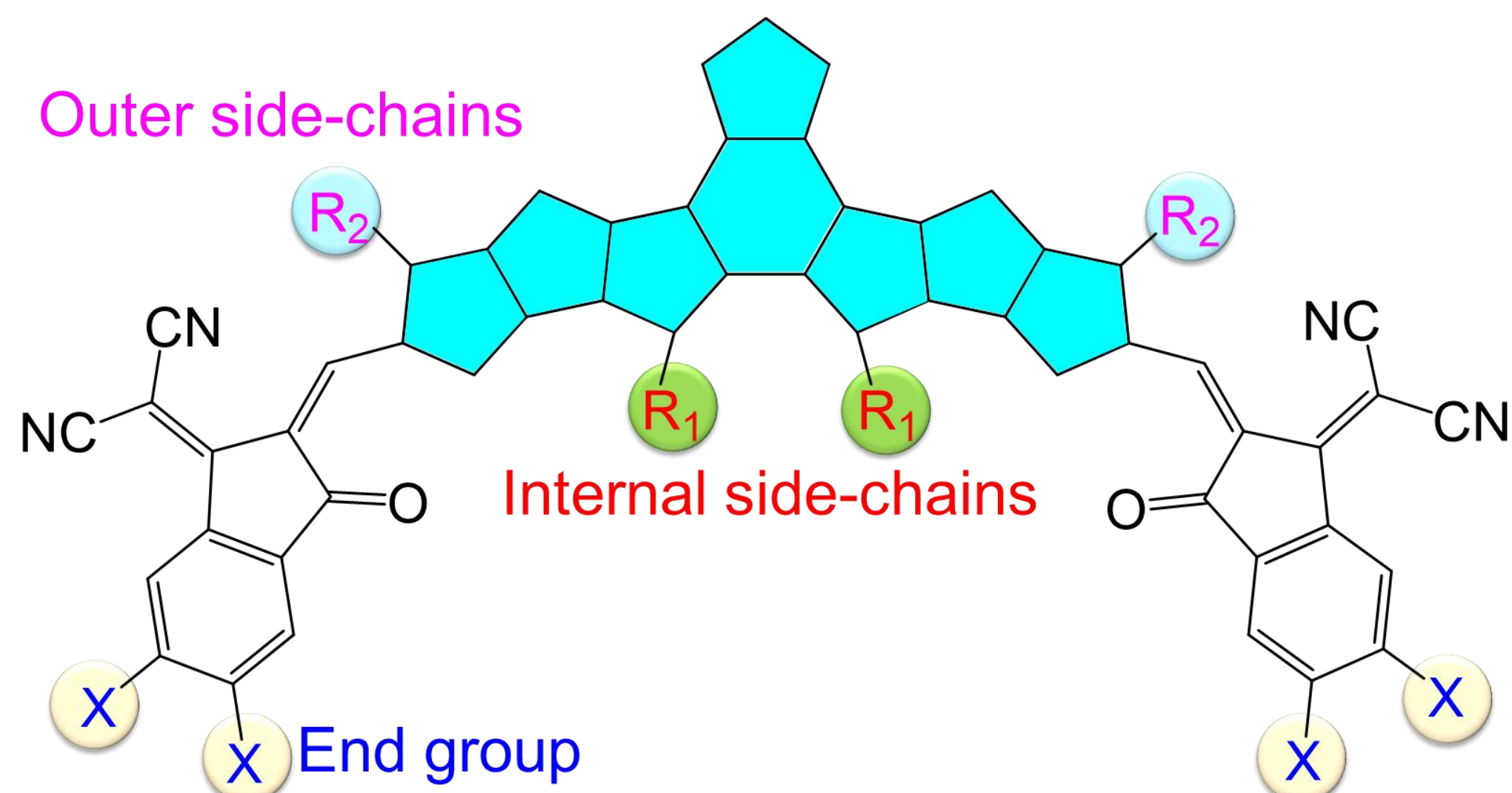
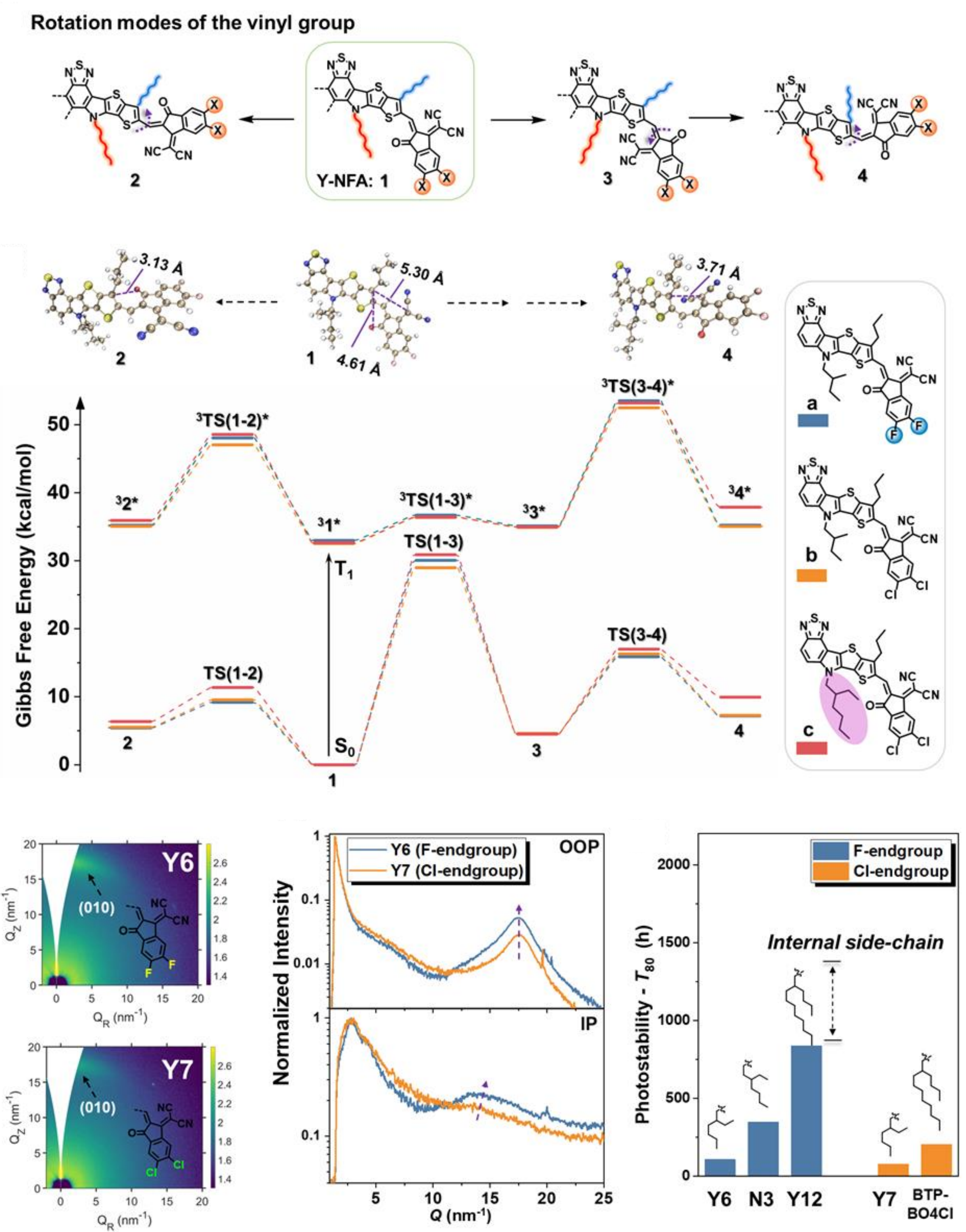


## Background

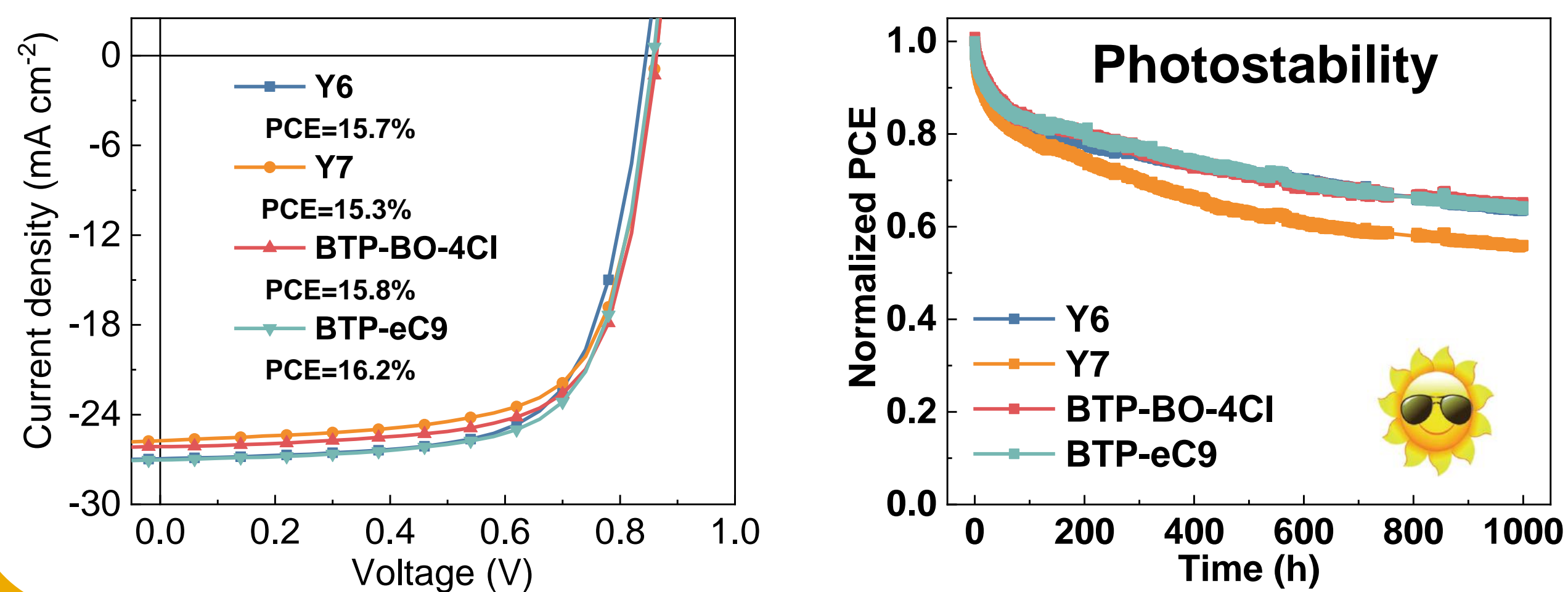
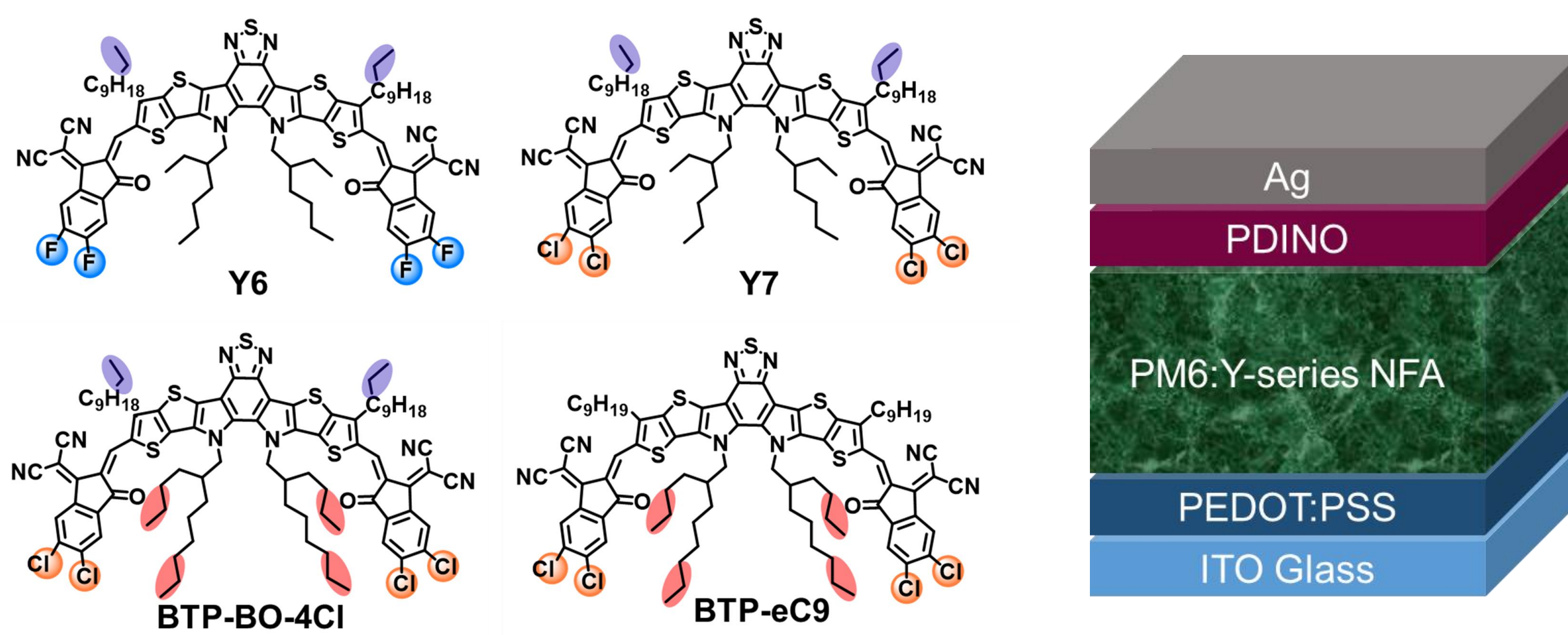
In photovoltaics, cost, efficiency, and stability are three key factors. Most high-efficiency organic solar cells are based on Y-series acceptors. Great effort has been made on the structural modification for high efficiency. The relationship between structure and device stability needs to be unveiled.



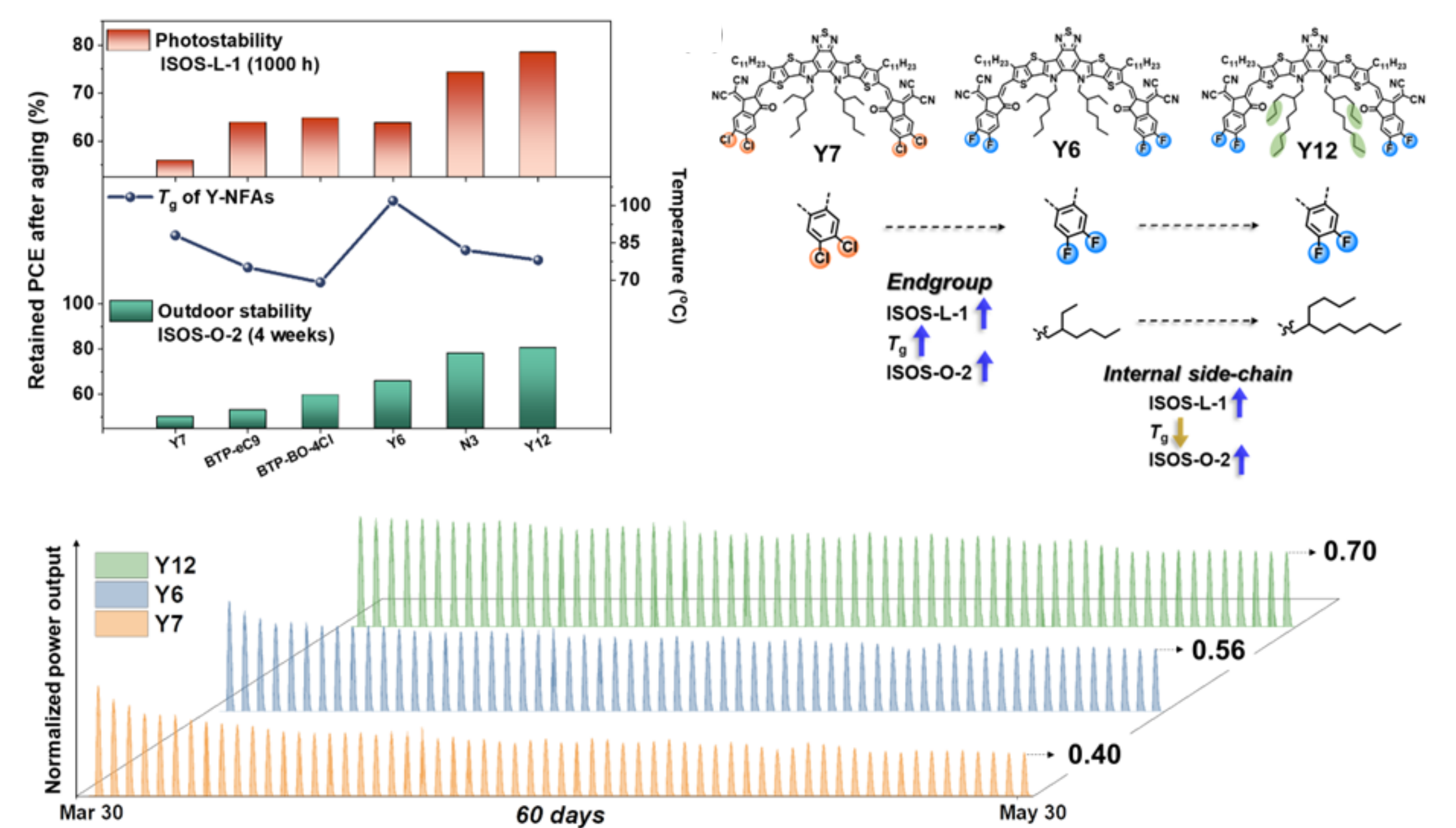
## Photoisomerization



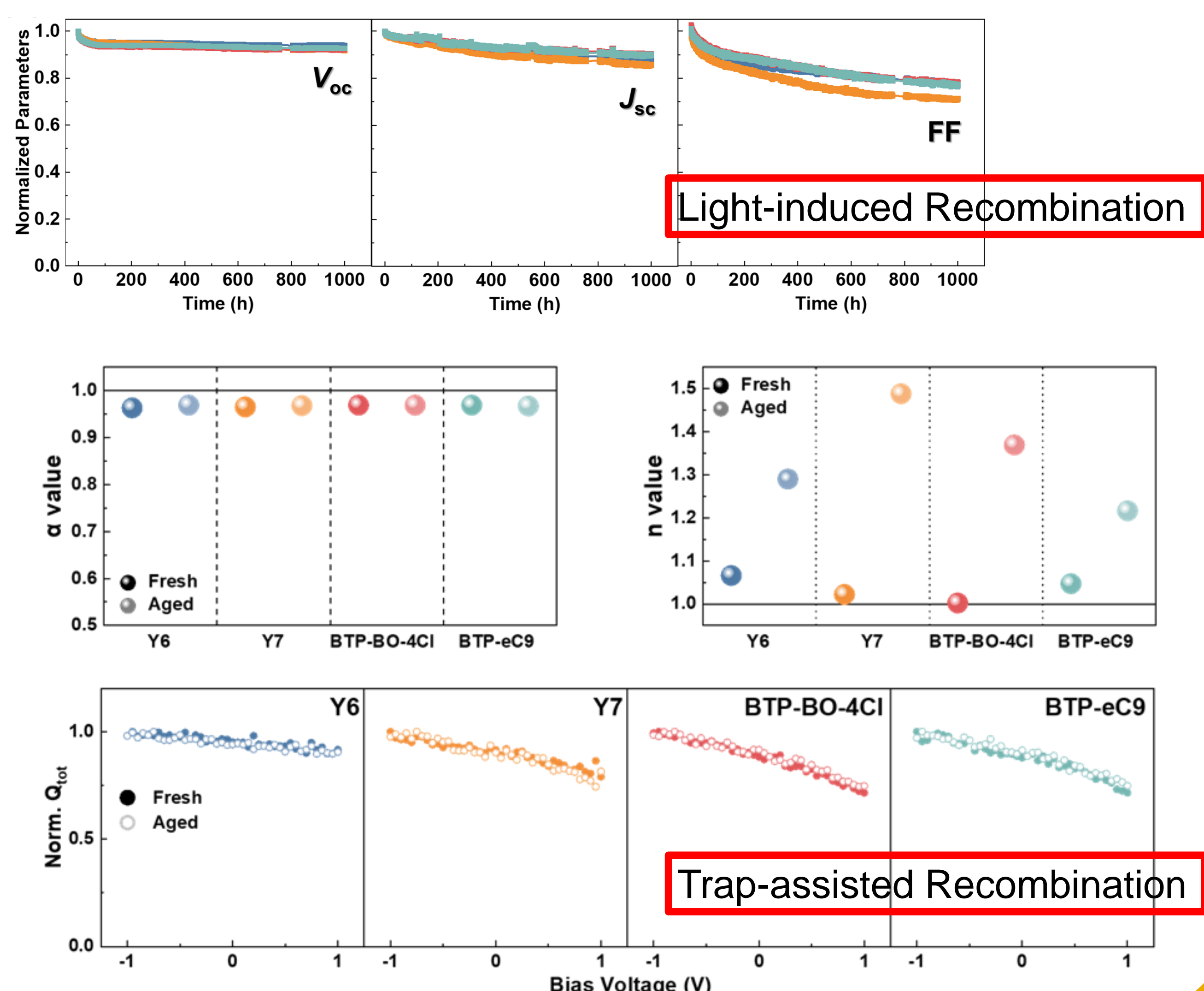
## Materials and devices



## Outdoor performance



## Device characterization



## Conclusion

- Trap-assisted recombination is the major reason for photo-degradation.
- Longer internal side chain and F-end-group will reduce the photoisomerization process, which will further improve the device lifetime.
- Outdoor stability behavior of Y-series devices has a strong correlation with their photostability behavior.