Supporting Information for

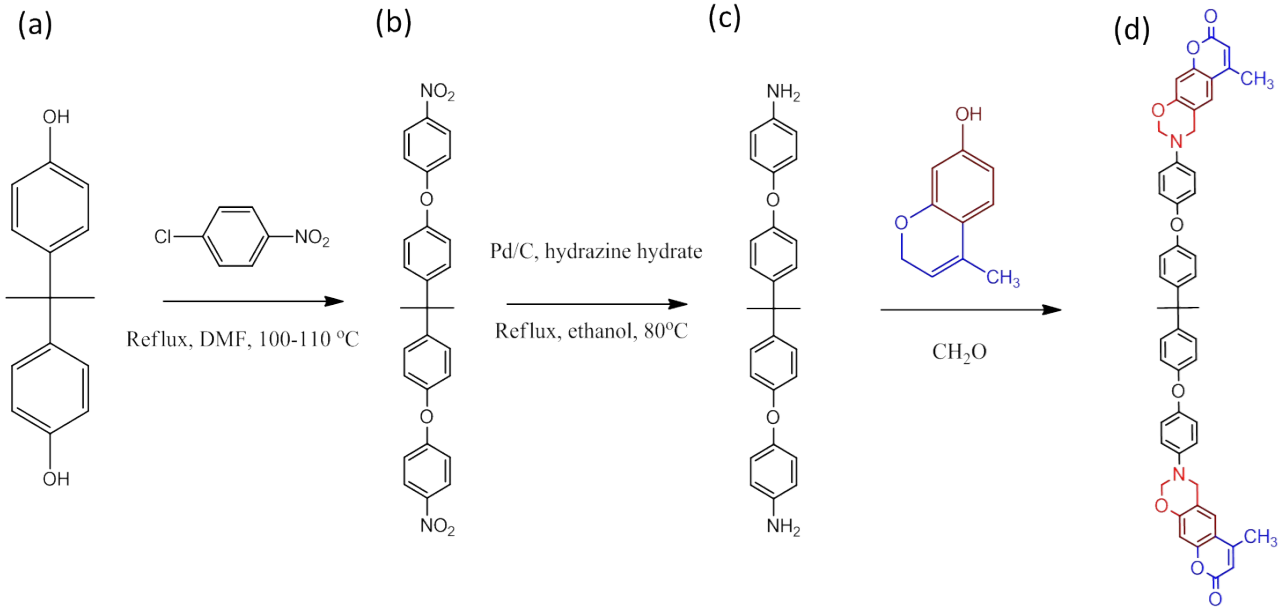
Multivalent Photo-Crosslinkable Coumarin-Containing Polybenzoxazines Exhibiting Enhanced Thermal and Hydrophobic Surface Properties

Ruey-Chorng Lin,[a] Mohamed Gamal Mohamed,[a] Kuo-Chih Hsu[a], Jia-Yu Wu[a], Yu-Ru Jheng[a] and Shiao-Wei Kuo[a,b*]

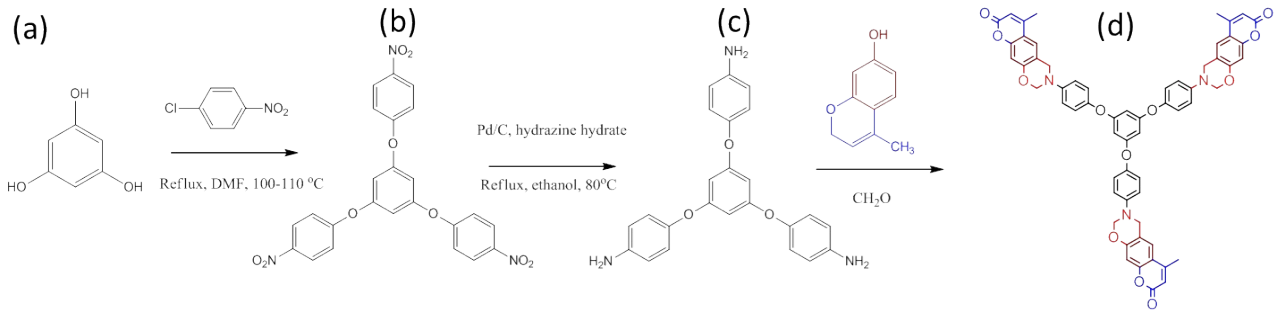
[a]Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Kaohsiung, Taiwan.

[b]Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Kaohsiung, Taiwan.

E-mail:kuosw@faculty.nsysu.edu.tw



Scheme S1: Chemical Structures of (a) Bisphenol A, (b) Bisphenol A-NO_2, (c) Bisphenol A-NH_2, and (d) Di-Coumarin BZ.



Scheme S2: Chemical Structures of (a) Phloroglucinol, (b) 1,3,5-Tris(4-nitrophenoxy)benzene, (c) 1,3,5-Tris(4-aminophenoxy)benzene, and (d) Tri-Coumarin BZ.

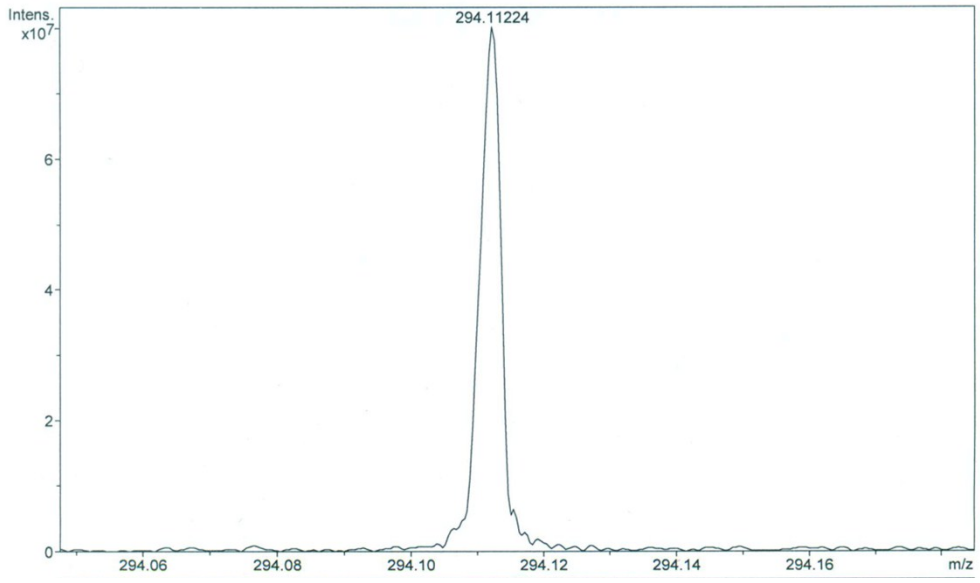


Figure S1: High resolution FT-MS of Mono-Coumarin BZ.

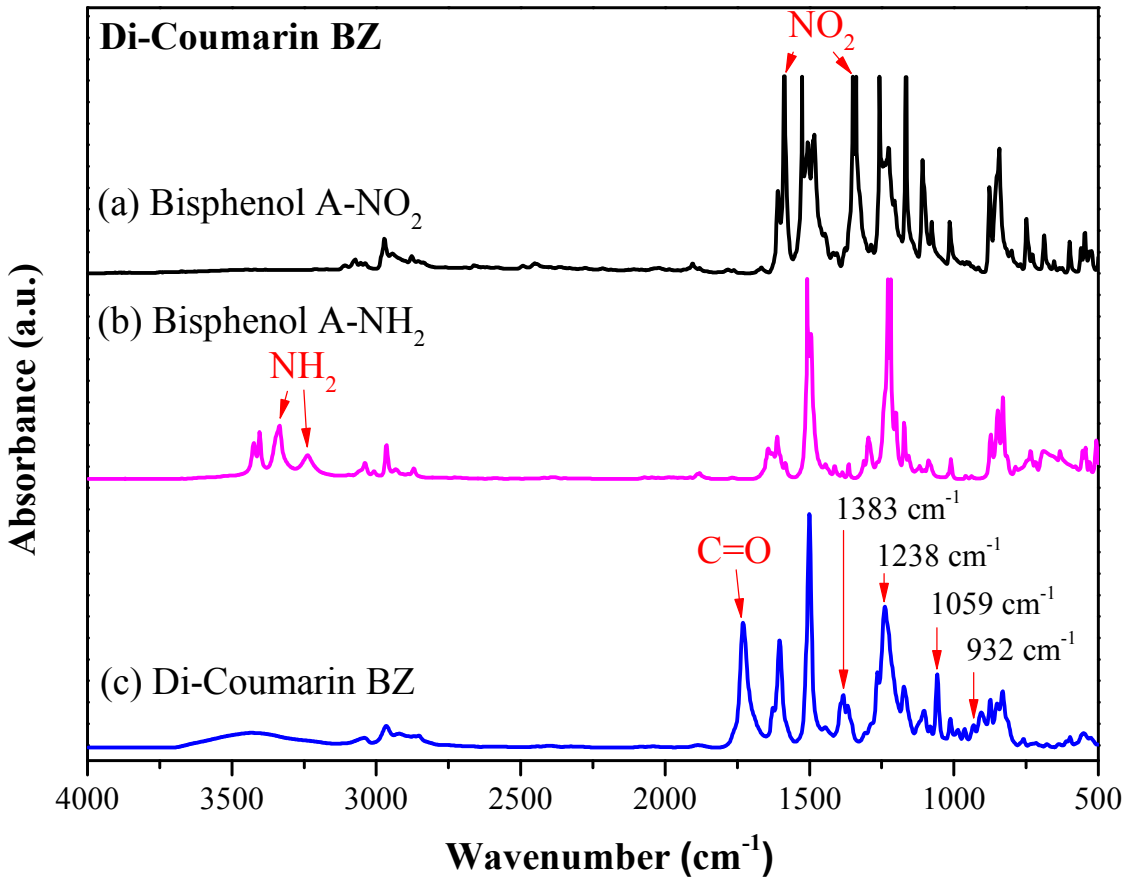


Figure S2: FTIR spectra of (a) Bisphenol A-NO_2, (b) Bisphenol A-NH_2, and (c) Di-Coumarin BZ.

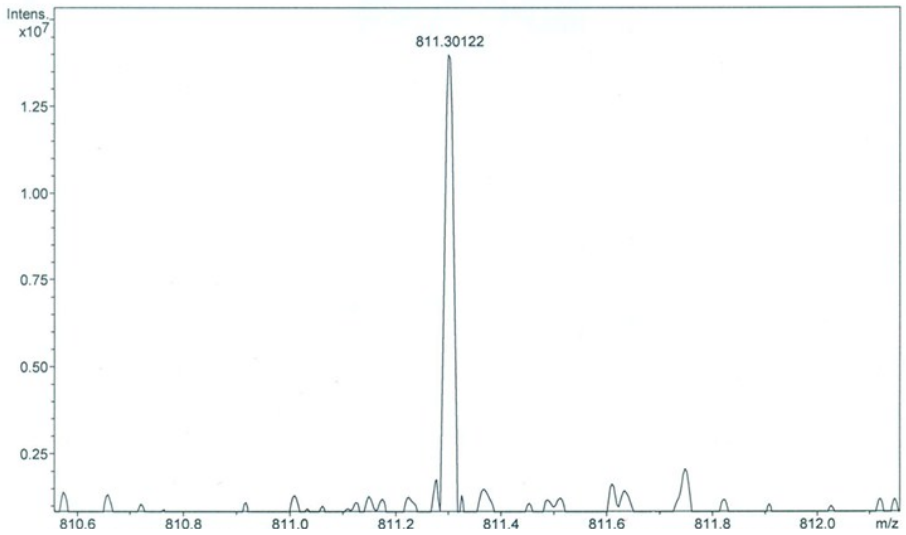


Figure S3: High resolution FT-MS of Di-Coumarin BZ.

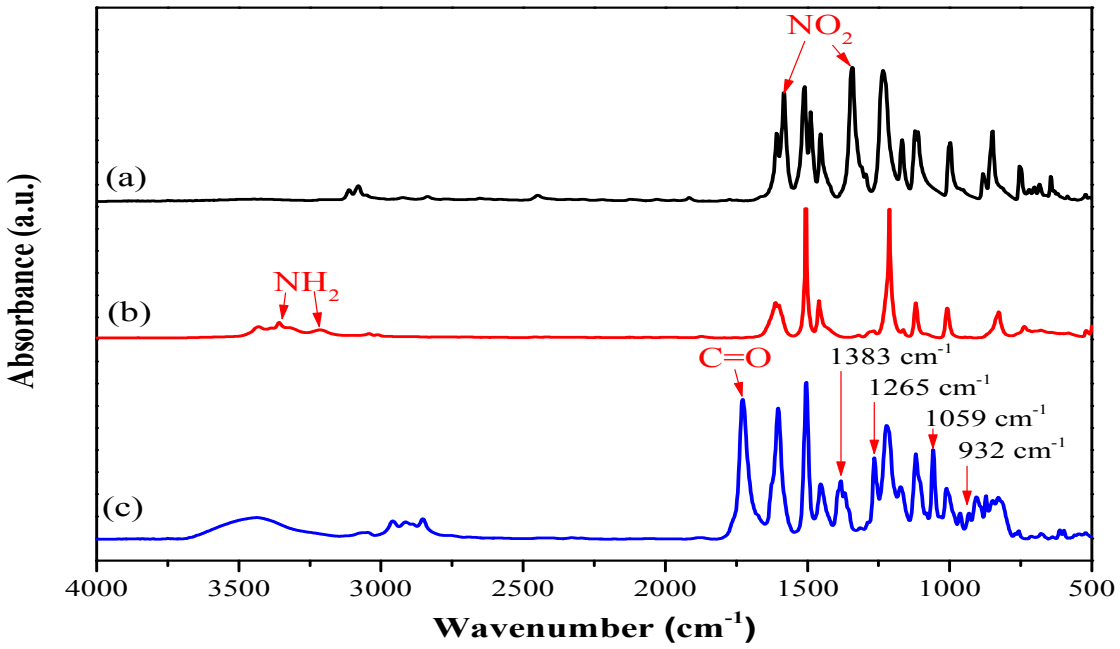


Figure S4: FTIR spectra of (a) 1,3,5-Tris(4-nitrophenoxy)benzene, (b) 1,3,5-Tris(4-aminophenoxy)benzene, and (d) Tri-Coumarin BZ.

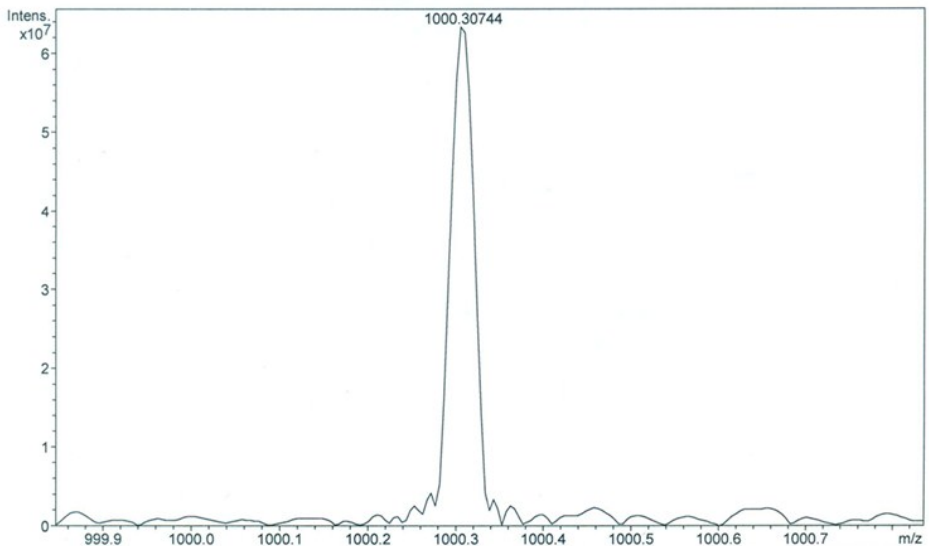


Figure S5: High resolution FT-MS of Tri-Coumarin BZ.

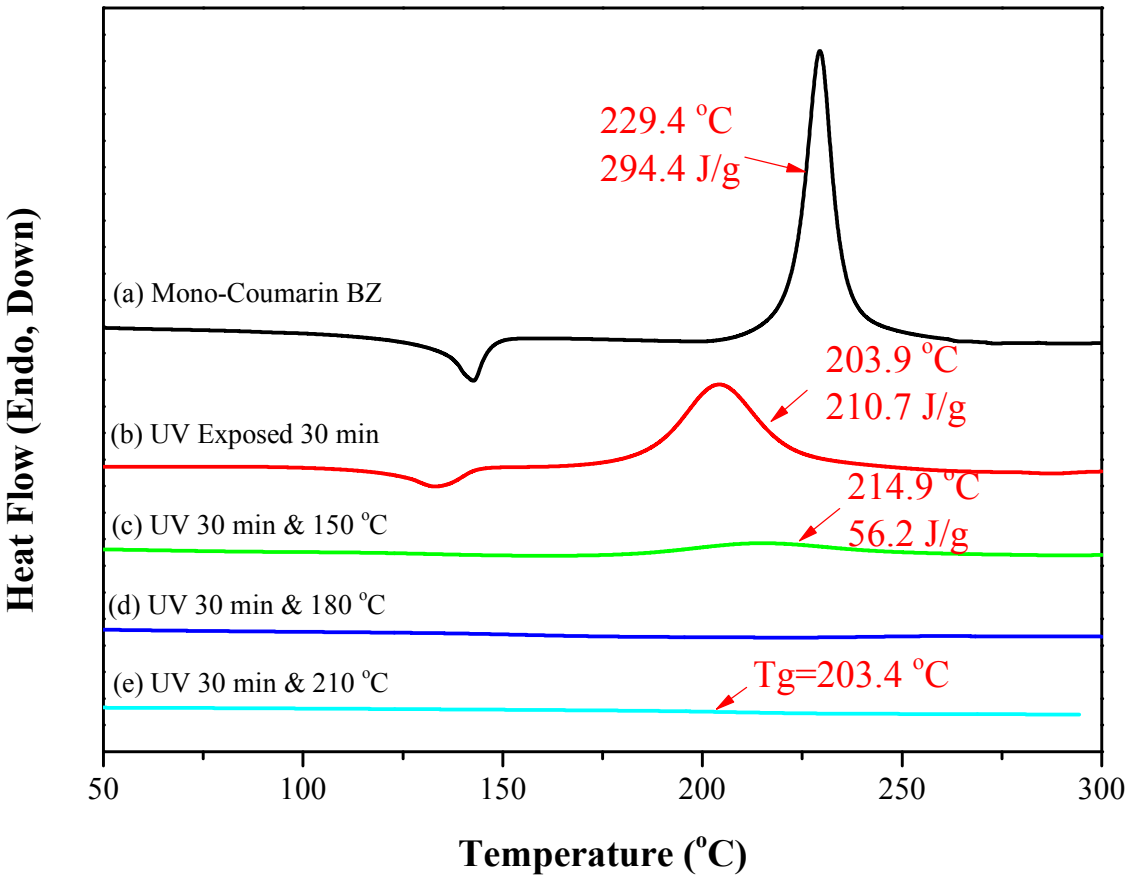


Figure S6: DSC thermograms of Mono-Coumarin BZ: (a) uncured, (b) after photodimerization for 30 min, and (c–e) after thermal curing at (c) 150, (d) 180, and (e) 210 °C.

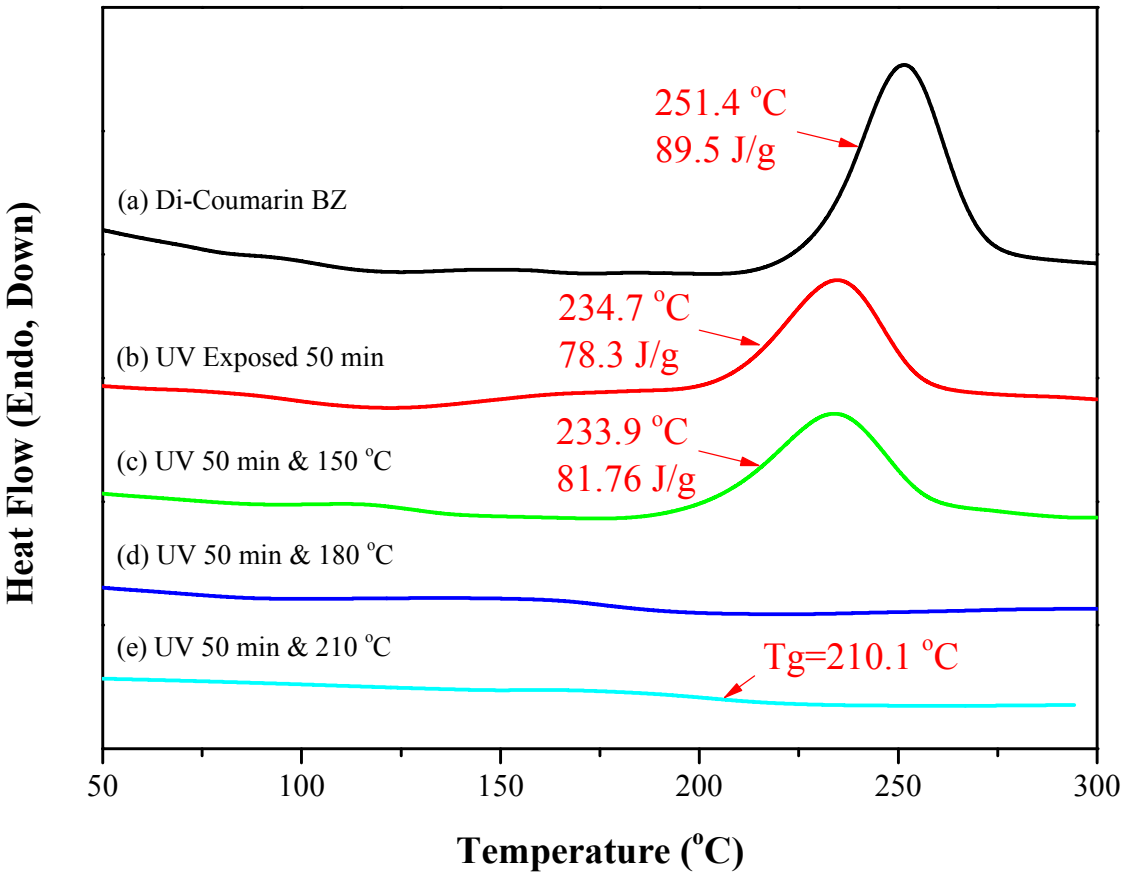


Figure S7: DSC thermograms of Di-Coumarin BZ: (a) uncured, (b) after photodimerization for 50 min, and (c–e) after thermal curing at (c) 150, (d) 180, and (e) 210 °C.

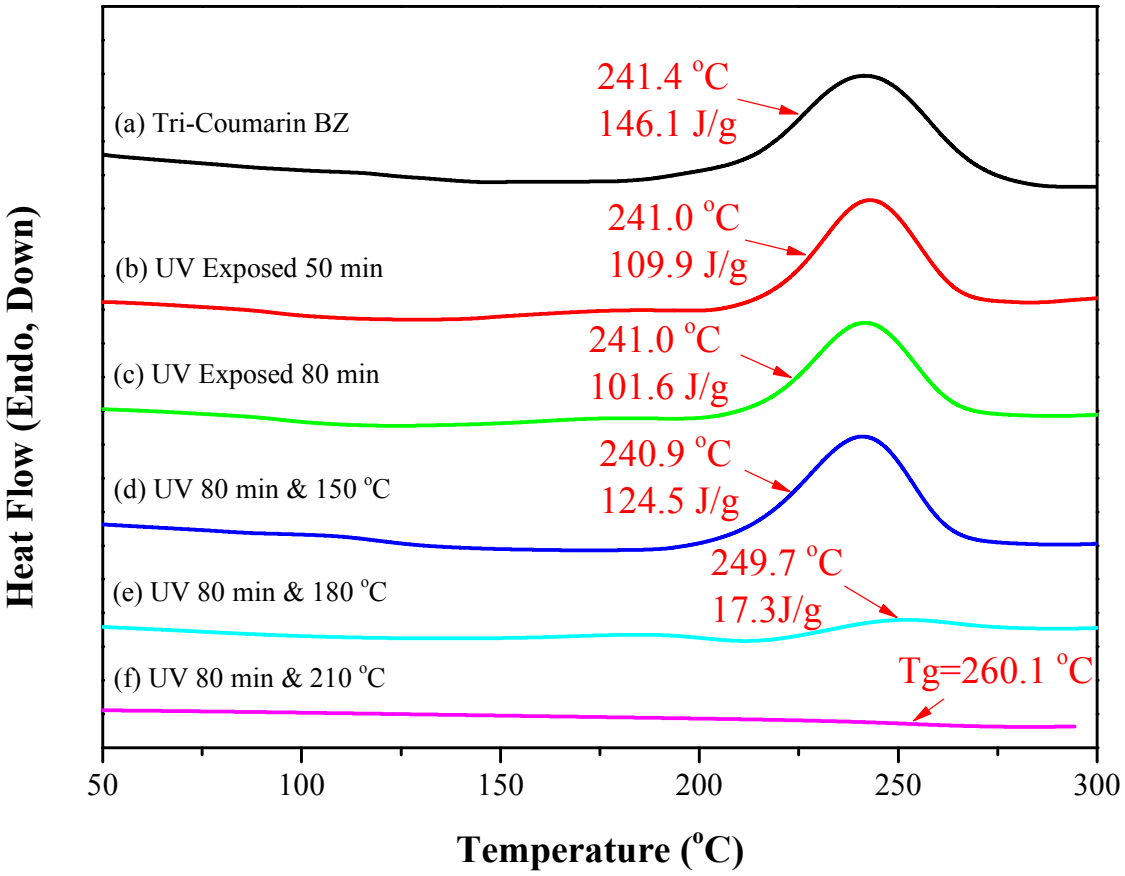


Figure S8: DSC thermograms of Tri-Coumarin BZ: (a) uncured, (b) after photodimerization for 80 min, and (c–e) after thermal curing at (c) 150, (d) 180, and (e) 210 °C.

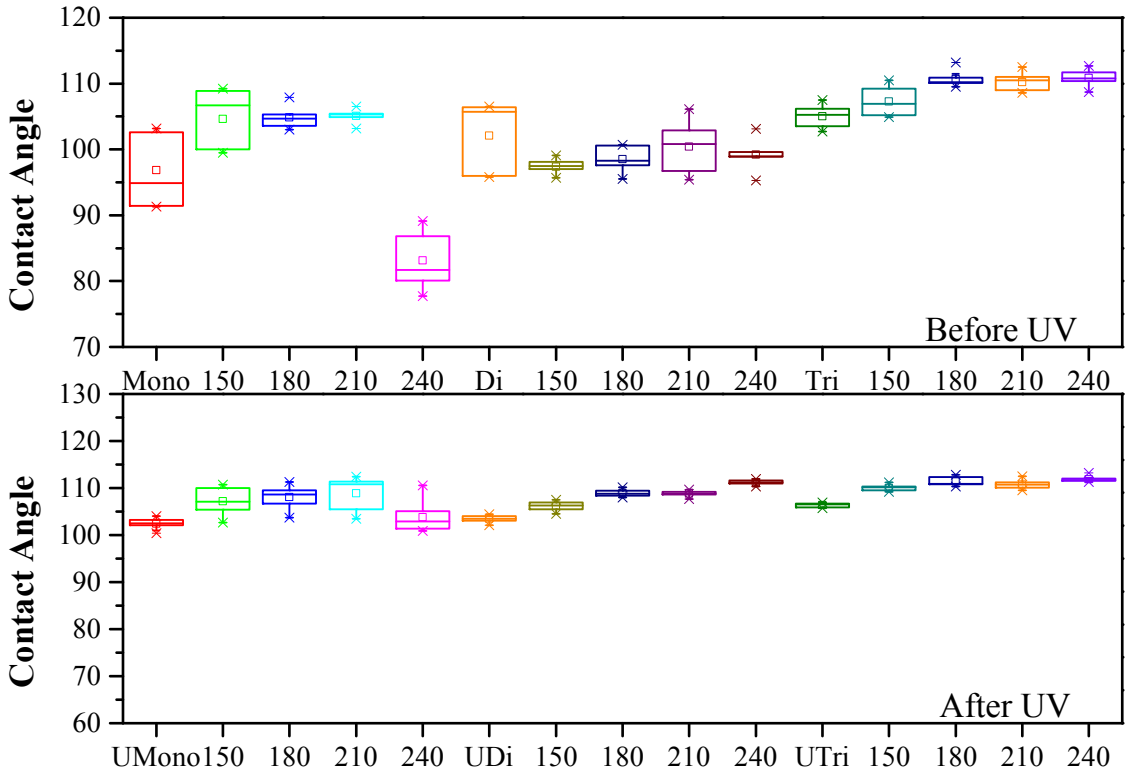


Figure S9: WCAs of poly(Mono-Coumarin BZ), poly(Di-Coumarin BZ), and poly(Tri-Coumarin BZ) before and after UV irradiation at 365 nm, recorded at different thermal curing polymerization.