Supporting Information for:

Domain Structures of Poly(3-dodecylthiophene)-Based Block Copolymers Depend on Regioregularity

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Supplementary Figures

RR controlled P3DDT-b-P2VP

$$f_{P2VP} = \frac{(105.14/1.14) \times ((\text{I[a]} + \text{I[d]})/2)}{(250.46/1.07) \times (\text{I[f]}/2) + (105.14/1.14) \times (\text{I[a]} + \text{I(d)}/2)}$$

* I[x] = integration of peak x

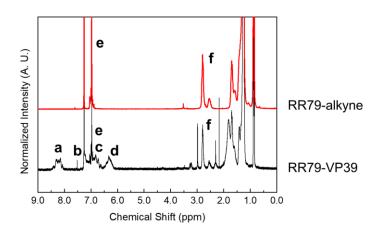


Figure S1. ¹H NMR spectra for RR79-alkyne and RR79–VP39. The f_{P2VP} values of all the P3DDT-b-P2VP polymer were calculated using the equation described in this Figure.

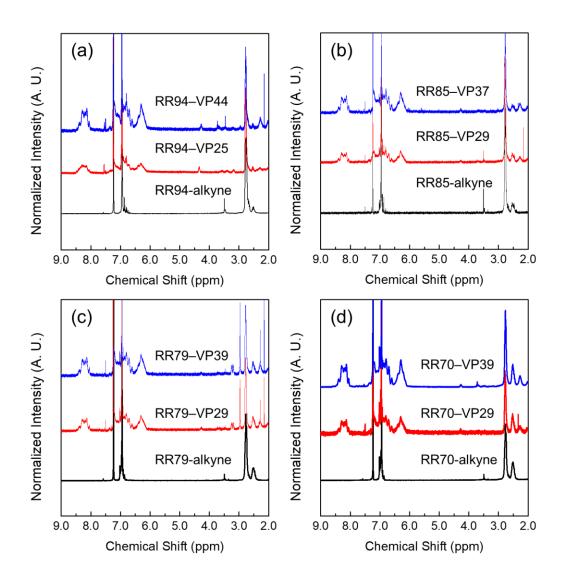


Figure S2. ¹H NMR spectra of P3DDT-*b*-P2VP BCPs that have (a) RR 94, (b) RR 85, (c) RR79, and (d) RR70 P3DDT segments.

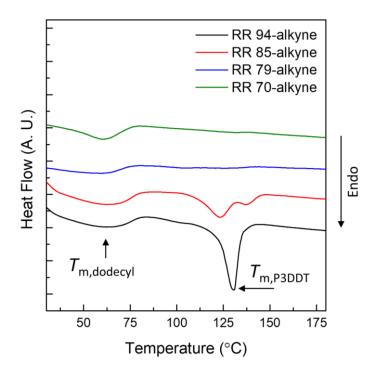


Figure S3. DSC thermograms 2nd heating cycle of RR-controlled P3DDT-alkynes.

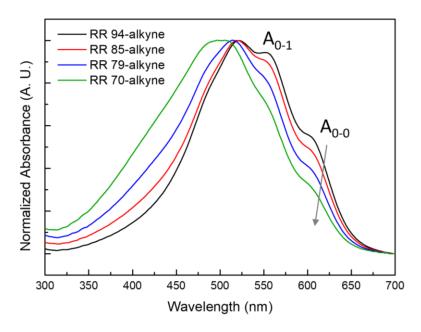


Figure S4. Normalized UV-Vis absorption spectra for a series of RR-controlled P3DDT-alkynes.

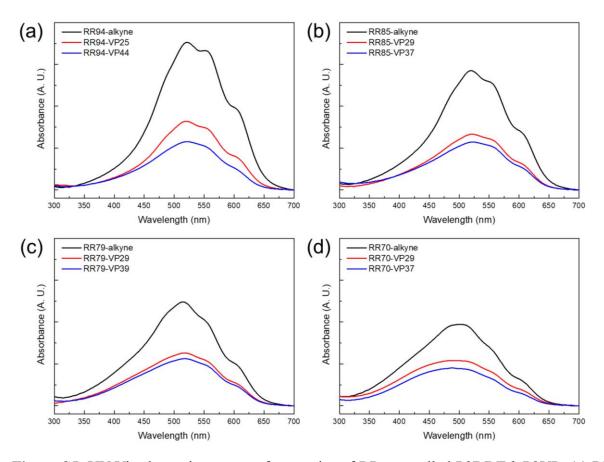


Figure S5. UV-Vis absorption spectra for a series of RR-controlled P3DDT-*b*-P2VP: (a) RR 94, (b) RR 85, (c) RR 79, and (d) RR 70.

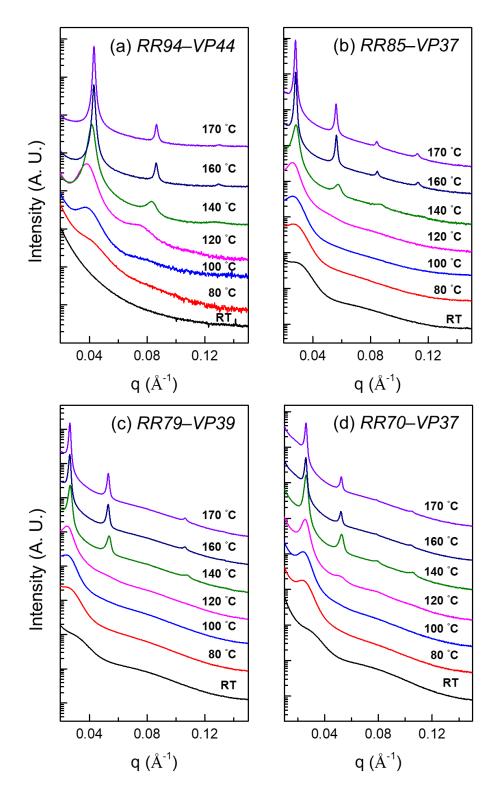


Figure S6. Temperature-dependent SAXS spectra of (a) RR94–VP44, (b) RR85–VP37, (c) RR79–VP39 and (d) RR70–VP37 recorded during heating from RT to 170 °C.

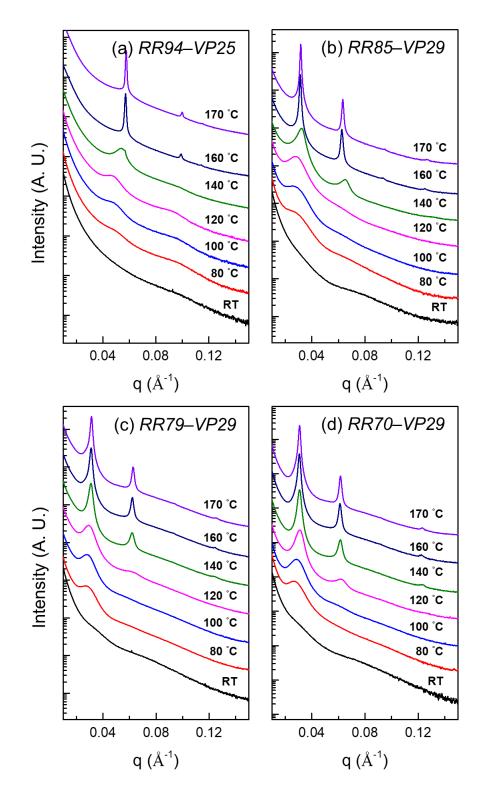
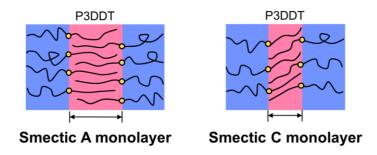
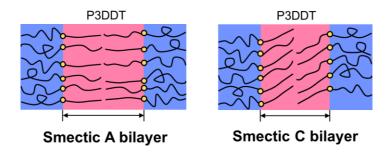


Figure S7. Temperature-dependent SAXS spectra of (a) RR94–VP25, (b) RR85–VP29, (c) RR79–VP29 and (d) RR70–VP29 recorded during heating from RT to 170 °C.

(a) Liquid crystalline monolayer



(b) Liquid crystalline bilayer



(c) Non-Liquid Crystalline bilayer

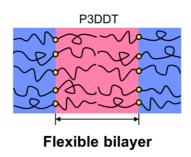


Figure S8. Possible models for molecular packing structures of conjugated–amorphous BCPs: (a) liquid crystalline monolayer, (b) liquid crystalline bilayer, and (c) non-liquid crystalline bilayer.