Electronic Supplementary Material (ESI) for Polymer Chemistry.


Supporting information for

# Poly(4-Vinylpyridine)-*block*-poly(*N*-acryloylpiperidine) Diblock Copolymers: Synthesis, Self-Assembly and Interaction

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## Results and discussion

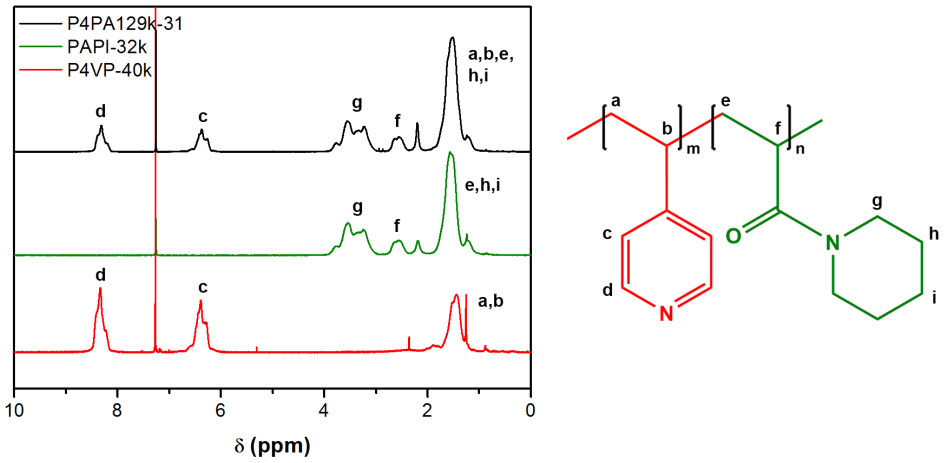


**Figure S1:** $^1$H-NMR spectra of P4VP-40k, PAPI-32k and P4PA129k-31. Deuterated chloroform ($CDCl_3$) was used as solvent (7.26 ppm). The composition of the block copolymer was calculated by using two of P4VP's aromatic protons ($d$) and using the full integral of PAPI ($e - i$) after correction of this region ($1.0 - 4.0$ ppm) for P4VP ($a$, $b$).

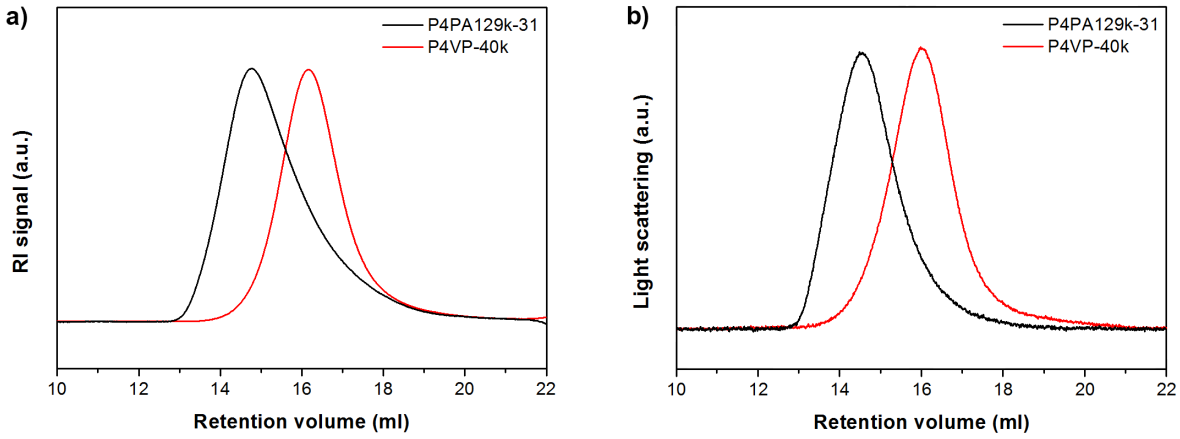


**Figure S2:** GPC chromatograms of P4PA129k-31 and its precursor P4VP-40k. Refractive index (a) and light scattering signal (b).

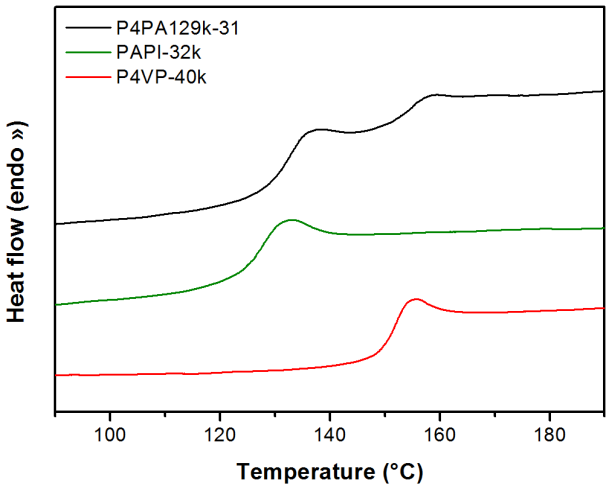


**Figure S3:** DSC thermograms of P4VP-40k, PAPI-32k and P4PA129k-31 recorded at 10 °C·min$^{-1}$ (2$^{nd}$ heating cycle).

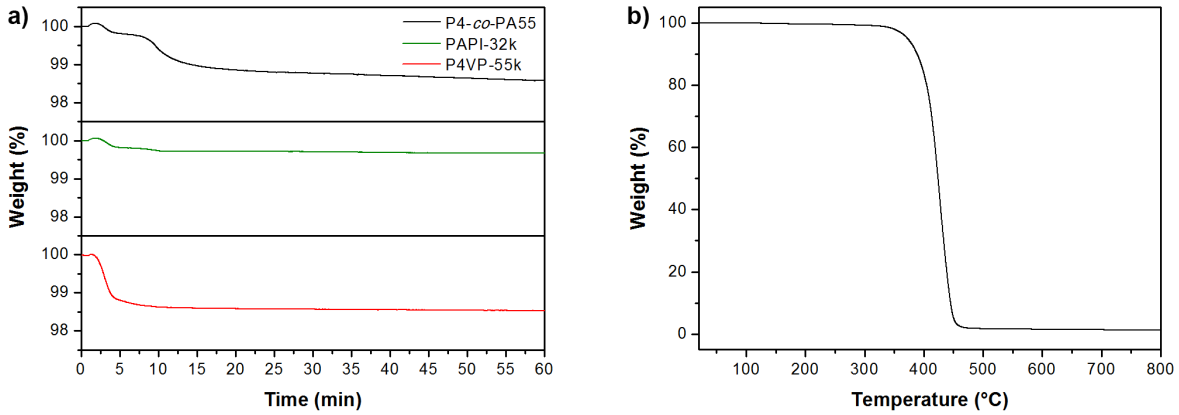


**Figure S4:** TGA data of homo- and copolymers. P4-*co*-PA55, PAPI-32k and P4VP-55k held at 200 °C for an hour (a). P4PA57k-47 heated to 900 °C at 10 °C·min$^{-1}$ (b).

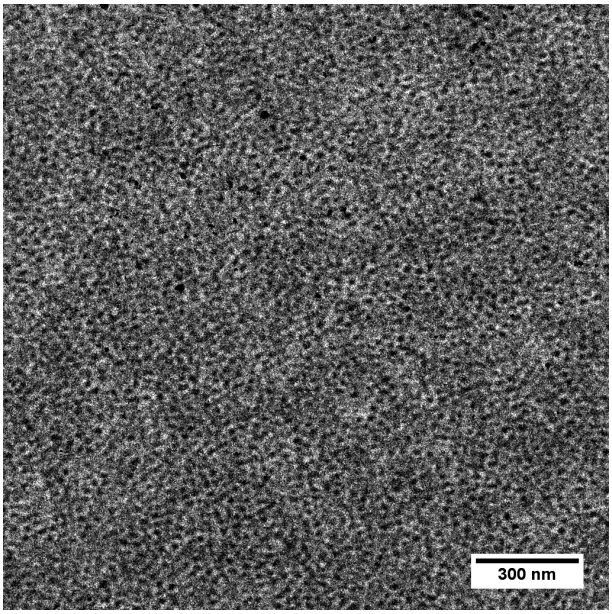


**Figure S5:** TEM image of P4PA80k-10 at lower magnification. P4VP appears dark due to staining with iodine.

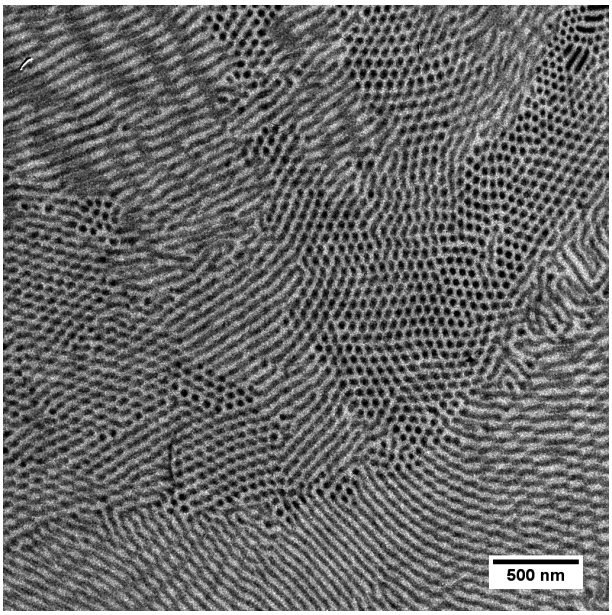


**Figure S6:** TEM image of P4PA131k-22 at lower magnification. P4VP appears dark due to staining with iodine.

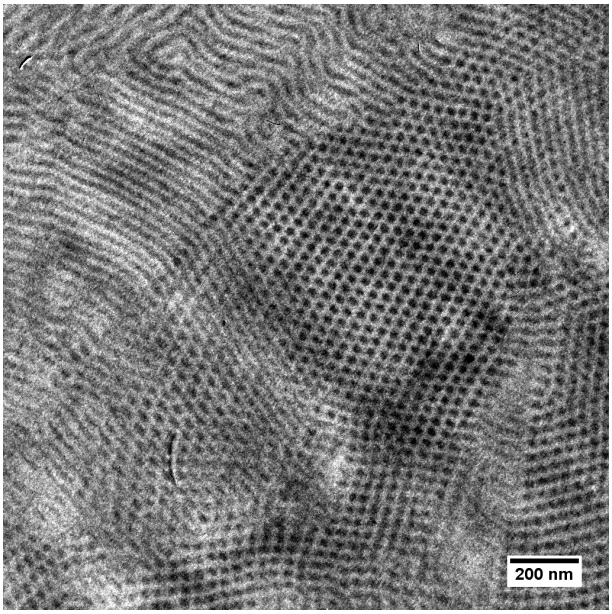


**Figure S7:** TEM image of P4PA61k-23 at lower magnification. P4VP appears dark due to staining with iodine.

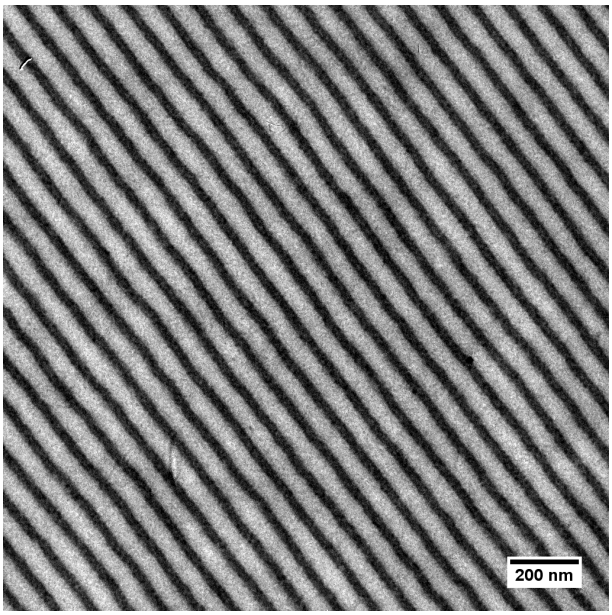


**Figure S8:** TEM image of P4PA129k-31 at lower magnification. P4VP appears dark due to staining with iodine.

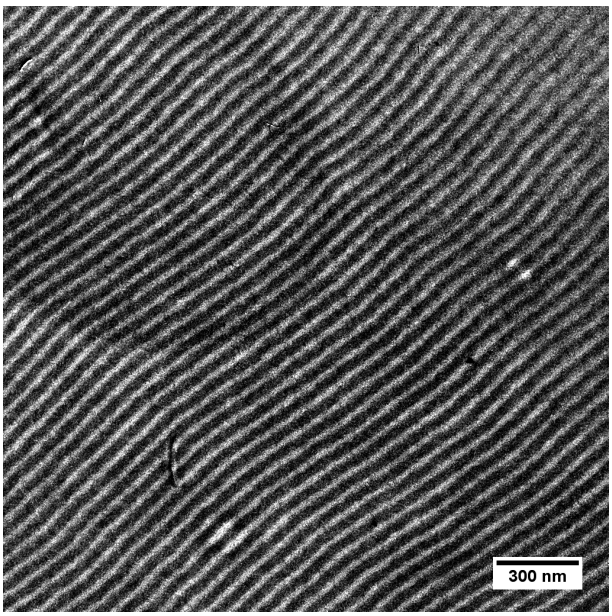


**Figure S9:** TEM image of P4PA57k-47 at lower magnification. P4VP appears dark due to staining with iodine.

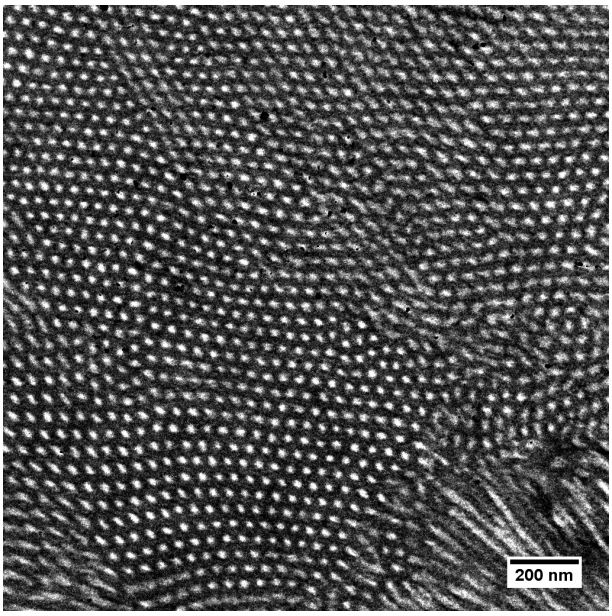


**Figure S10:** TEM image of P4PA78k-70 at lower magnification. P4VP appears dark due to staining with iodine.

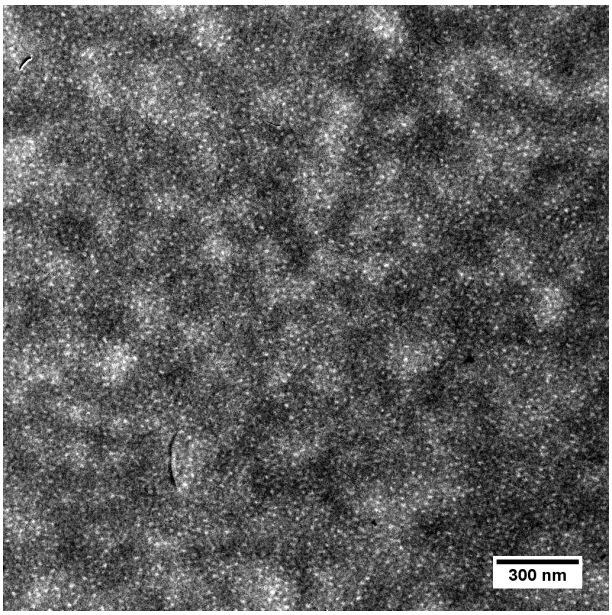


**Figure S11:** TEM image of P4PA48k-83 at lower magnification. P4VP appears dark due to staining with iodine.

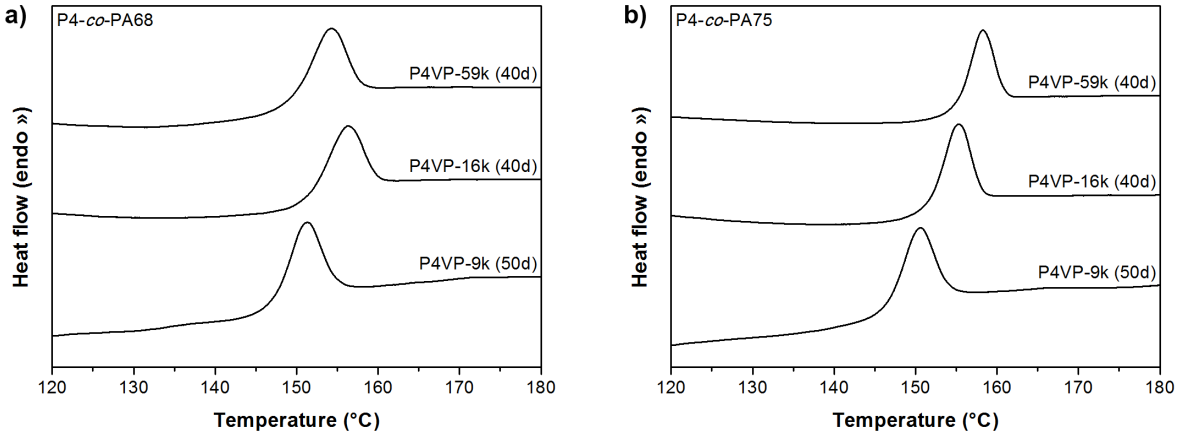


**Figure S12:** First heating scans of thermally aged P4-*co*-PA68 (a) and P4-*co*-PA75 (b) blends. P4VP-9k-based blends were annealed at 125 °C, while P4VP-16k and P4VP-59k blends at 131 °C.