

Supporting Information for

# Synthesis of Poly(*N*-vinylpyrrolidone)-based Polymer Bottlebrushes by ATRPA and RAFT Polymerization: Toward Drug Delivery Application

Yi-Shen Huang<sup>1</sup>, Jem-Kun Chen<sup>2</sup>, Shiao-Wei Kuo<sup>3</sup>, Ya-An Hsieh<sup>1</sup>, Shota Yamamoto<sup>4</sup>, Jun Nakanishi<sup>4,\*</sup> and Chih-Feng Huang<sup>1,\*</sup>

<sup>1</sup> Department of Chemical Engineering, National Chung Hsing University, 145 Xingda Road, Taichung 40227, Taiwan; [yishen617@gmail.com](mailto:yishen617@gmail.com) (Y.-S.H.); [yaan\\_hsieh@yahoo.com.tw](mailto:yaan_hsieh@yahoo.com.tw) (Y.-A.H.); [HuangCF@dragon.nchu.edu.tw](mailto:HuangCF@dragon.nchu.edu.tw) (C.-F.H.)

<sup>2</sup> Department of Materials Science and Engineering, National Taiwan University of Science and Technology, Taipei 10607, Taiwan; [jkchen@mail.ntust.edu.tw](mailto:jkchen@mail.ntust.edu.tw) (J.-K.C.)

<sup>3</sup> Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Kaohsiung 807, Taiwan; [kuosw@faculty.nsysu.edu.tw](mailto:kuosw@faculty.nsysu.edu.tw) (S.-W.K.)

<sup>4</sup> World Premier International Research Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science (NIMS), 1-1, Namiki, Tsukuba, Ibaraki 305-0044, Japan; [YAMAMOTO.shato@nims.go.jp](mailto:YAMAMOTO.shato@nims.go.jp) (S.Y.); [NAKANISHI.Jun@nims.go.jp](mailto:NAKANISHI.Jun@nims.go.jp) (J.N.)

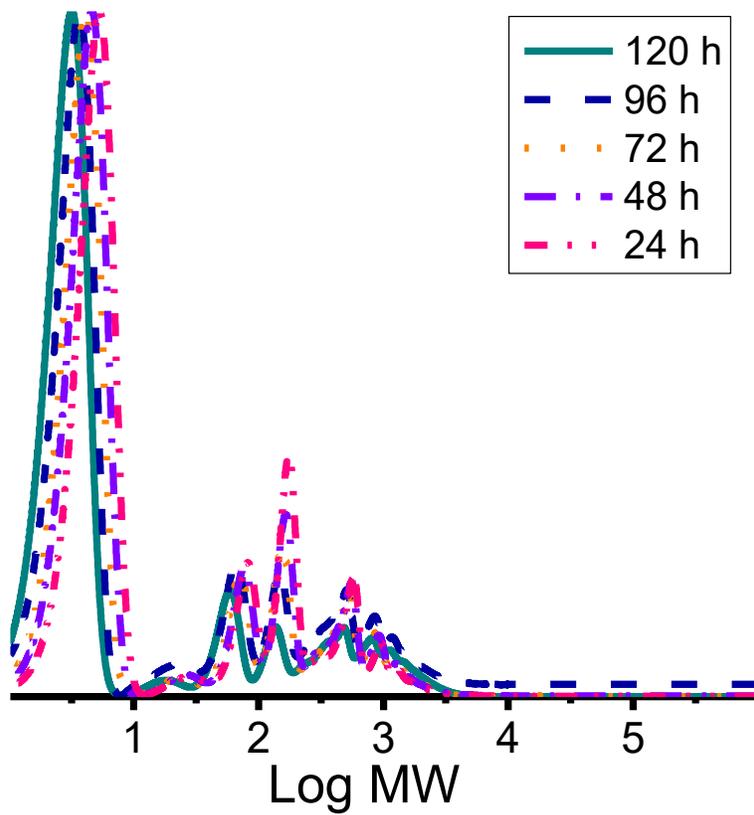
## Captions.

**Figure S1.** GPC traces for ATRPA of VBBPA (VBBPA/CuBr<sub>2</sub>/Cu/PMDETA = 50/2/1/6 at 40 °C; [VBBPA]<sub>0</sub> = 1.8 M in anisole).

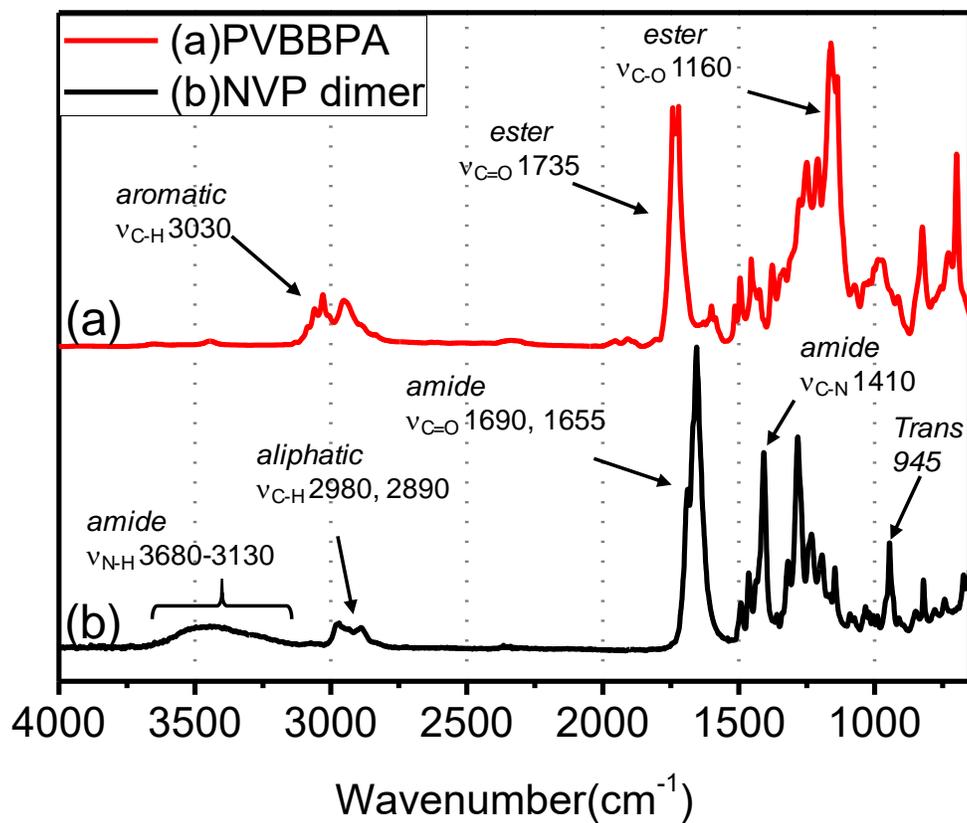
**Figure S2.** FT-IR spectra of (a) PVBBPA and (b) purified NVP dimer obtained after ATRP (NVP/PVBBPA/CuBr/PMDETA = 200/1/1/1 in anisole; PVBBPA:  $M_n$  = 11200 and PDI = 1.58; [NVP]<sub>0</sub> = 4.0 M).

**Figure S3.** GPC traces for ATRP of PVBBPA with NVP at various reaction times (NVP/PVBBPA/CuBr/PMDETA = 200/1/1/1 in anisole at 80 °C).

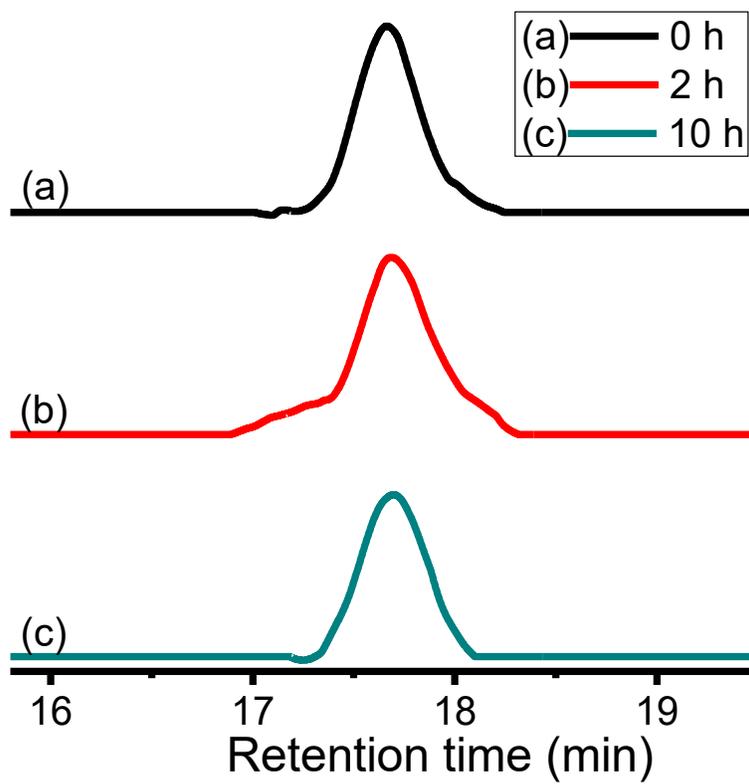
**Figure S4.** FT-IR spectra of (a) PVBXPA and (b) PVBPA-*g*-PNVP (co)polymers.



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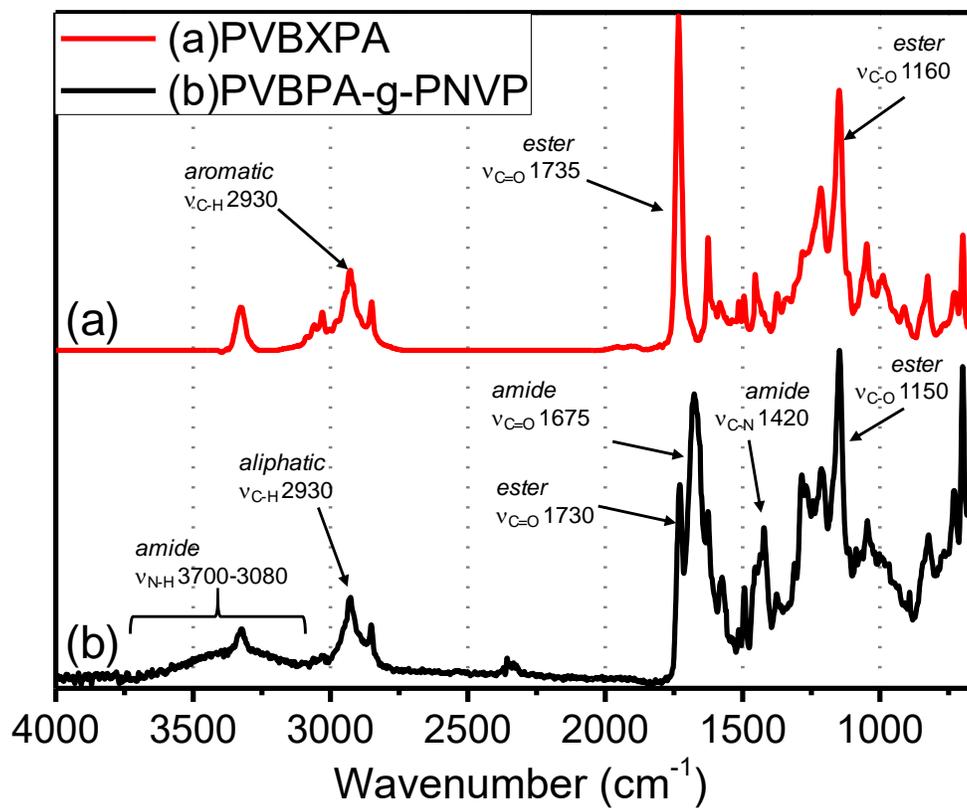


Figure S4. FT-IR spectra of (a) PVBXPA and (b) PVBPA-g-PNVP (co)polymers.