# Electronic Supplementary Information (ESI)

Effects of Molecular Weight Distribution on the Self-Assembly of

End-Functionalized Polystyrenes

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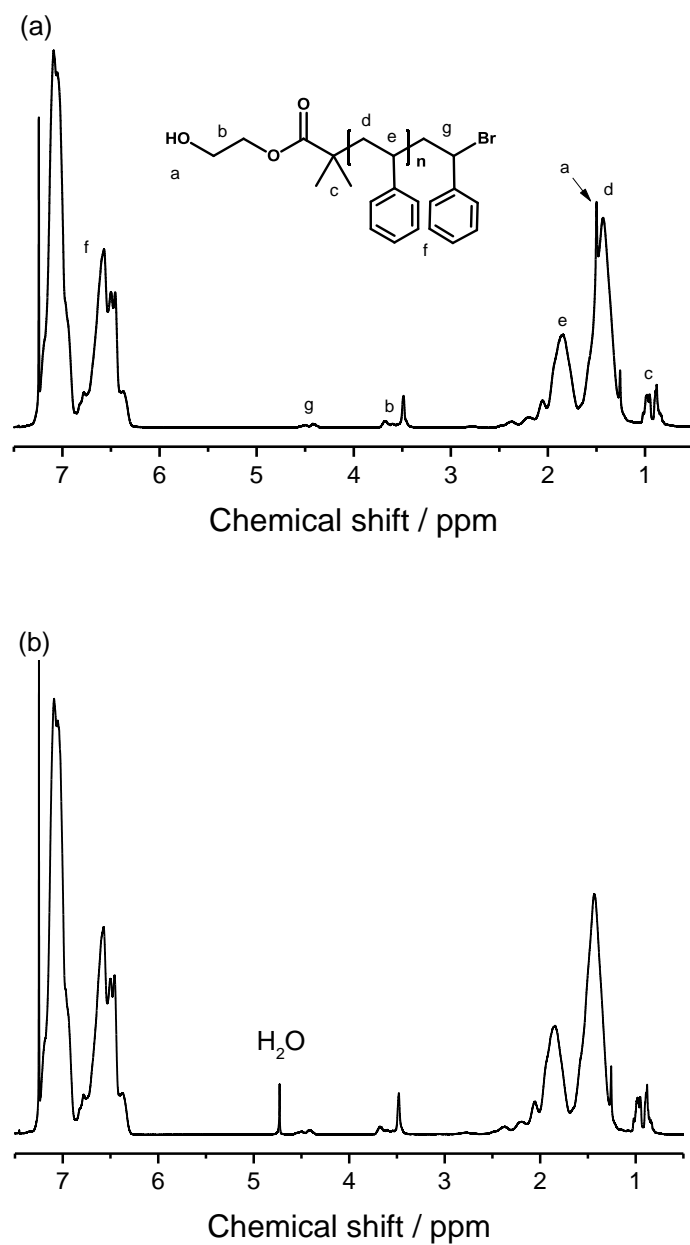
Figure S1. Typical ^{1}H NMR spectra of **PS-1** (a) in CDCl$_3$ and (b) after hydrogen-deuterium exchange in CDCl$_3$ and D$_2$O.
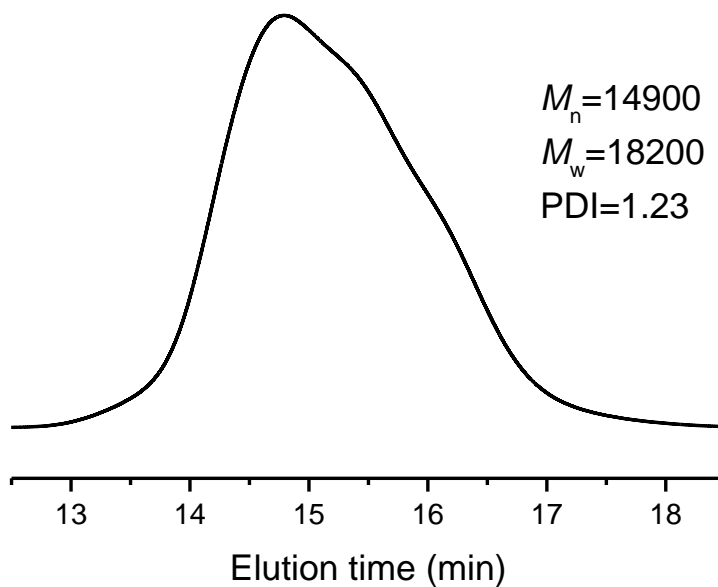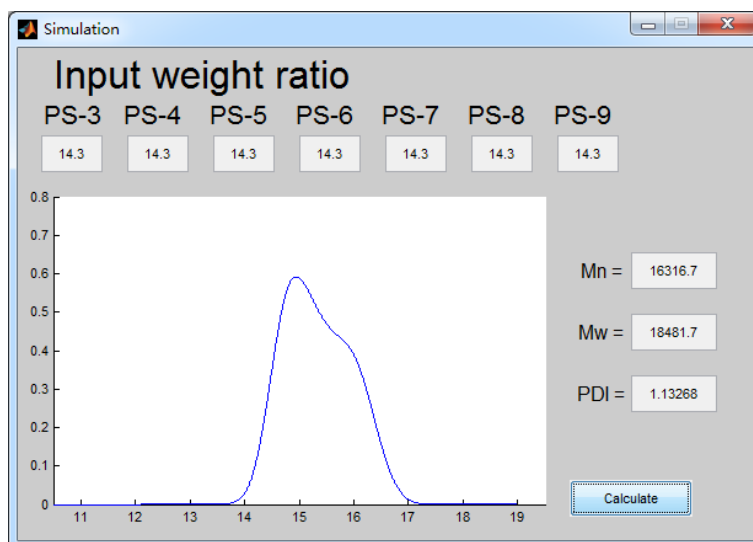
Figure S2. Molecular weight distribution (MWD) results of UNI-4 from theoretical calculation and GPC. On the basis of Gaussian function and GPC calibration curve, visual simulation application was set up by GUI of MATLAB.
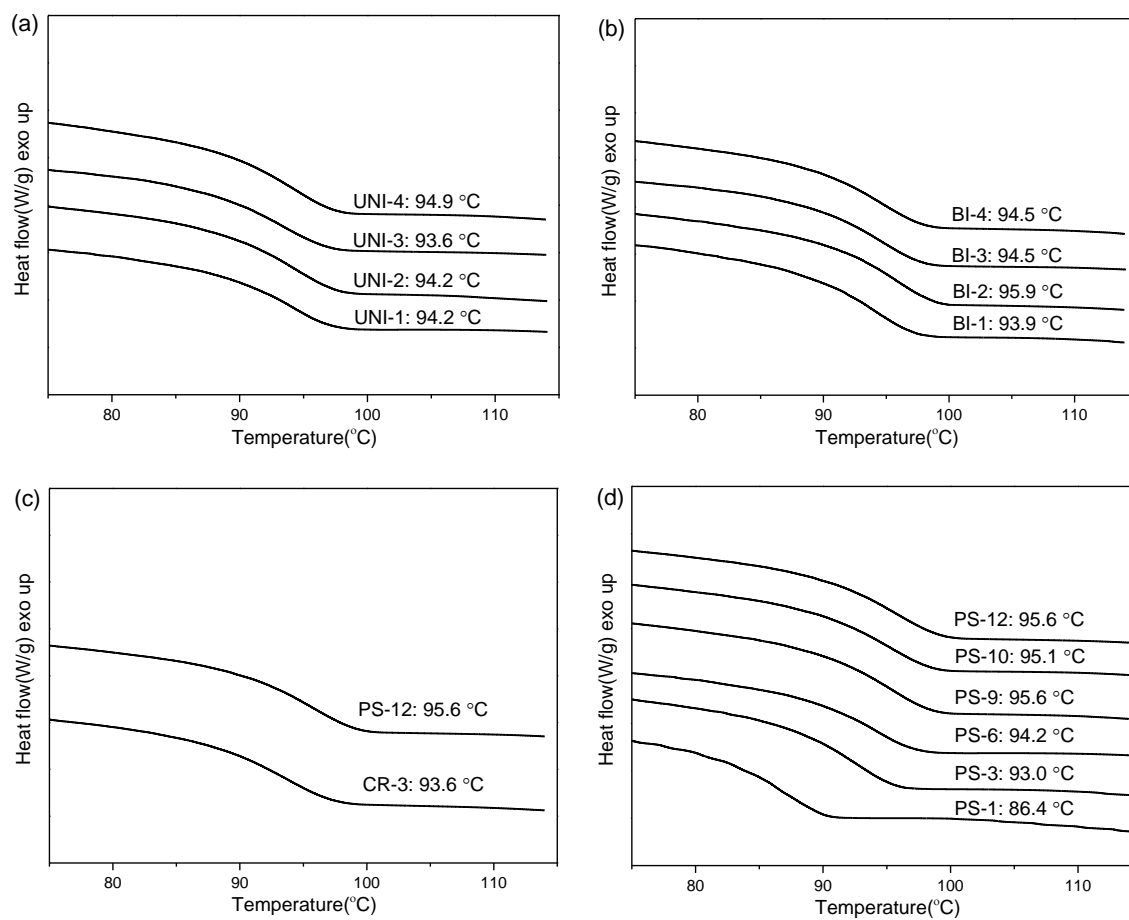
Figure S3. DSC curves of polystyrenes used in this work.
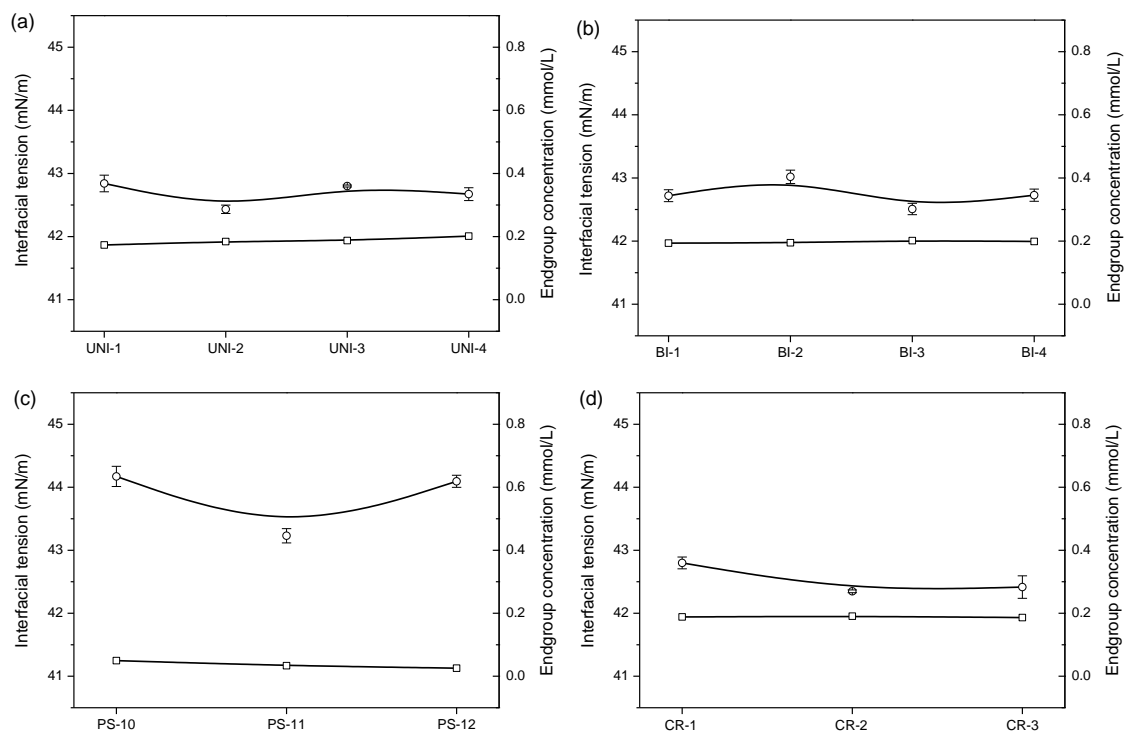
Figure S4. Interfacial tension (circle) measured by pendent drop method and end group concentration (square) of (a) UNI group, (b) BI group, (c) synthetic unimodal distributed samples and (d) CR group.
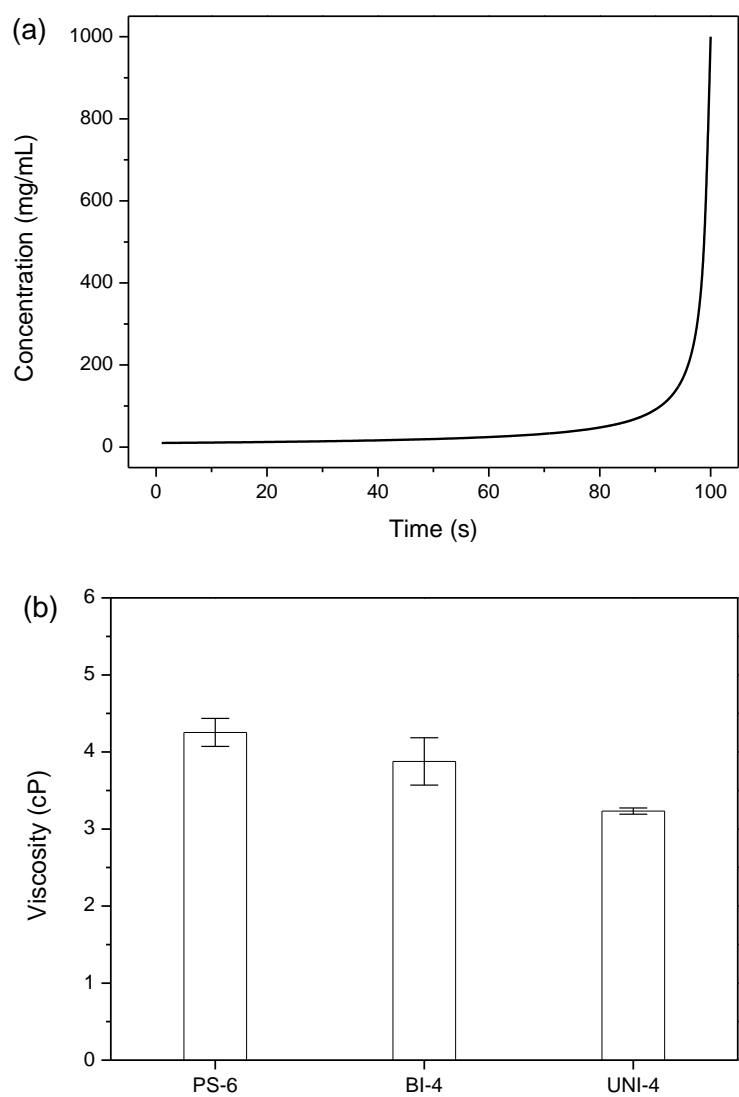
Figure S5. (a) Concentration variation with the evaporation of solvent during the breath figure process. (b) Viscosities of different polymer solutions measured at 200 mg/mL. The shear rate is 50 rpm.

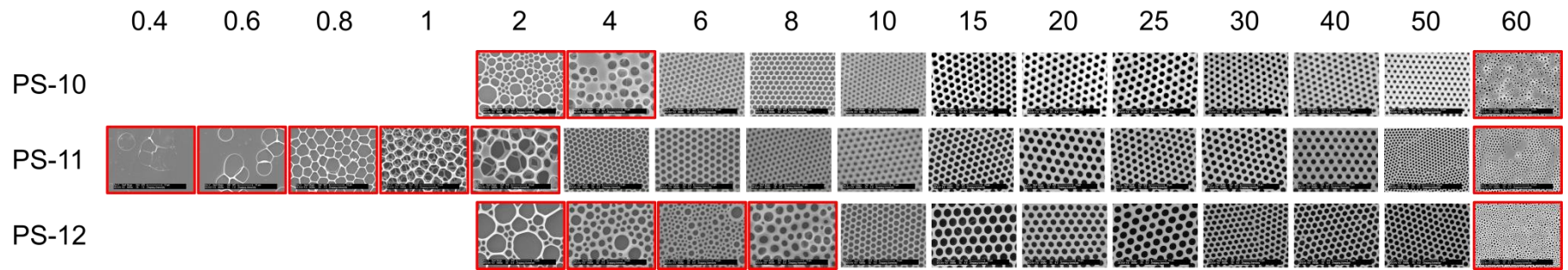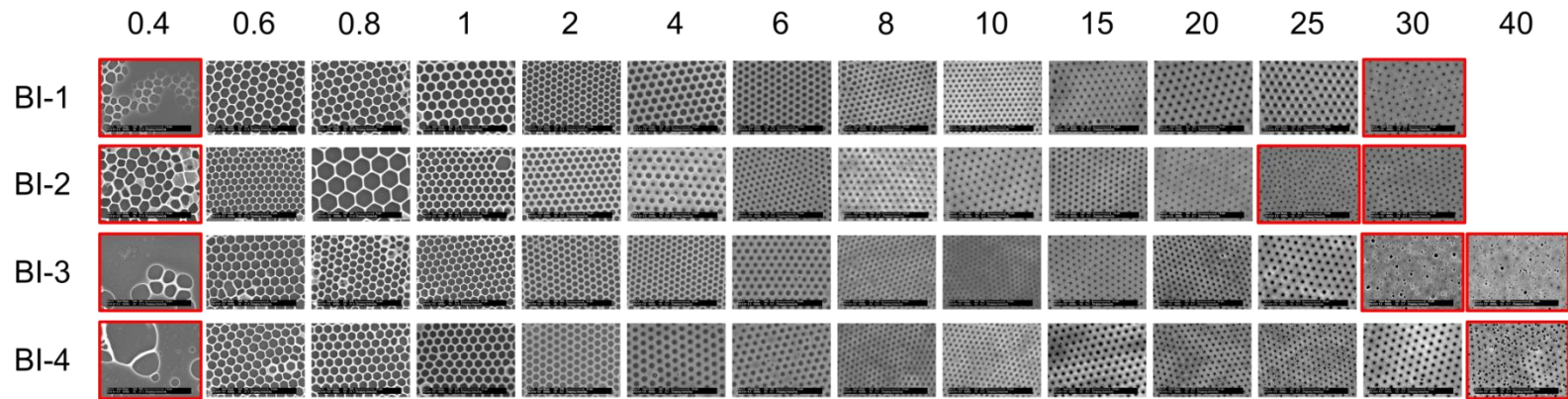|	0.4	0.6	0.8	1	2	4	6	8	10	15	20	25	30	40
PS-1														
PS-2														
PS-3														
PS-6														
PS-9														

	0.4	0.6	0.8	1	2	4	6	8	10	15	20	25	30	40	50	60
UNI-1																
UNI-2																
UNI-3																
UNI-4																

	0.4	0.6	0.8	1	2	4	6	8	10	15	20	25	30	40

BI-1

BI-2

BI-3

BI-4

	0.4	0.6	0.8	1	2	4	6	8	10	15	20	25	30	40	50	60

PS-10

PS-11

PS-12
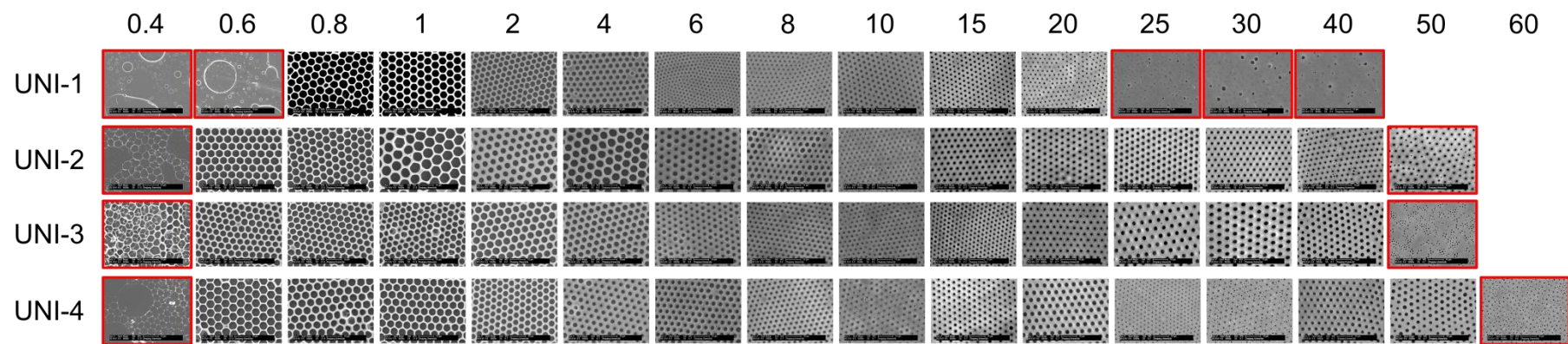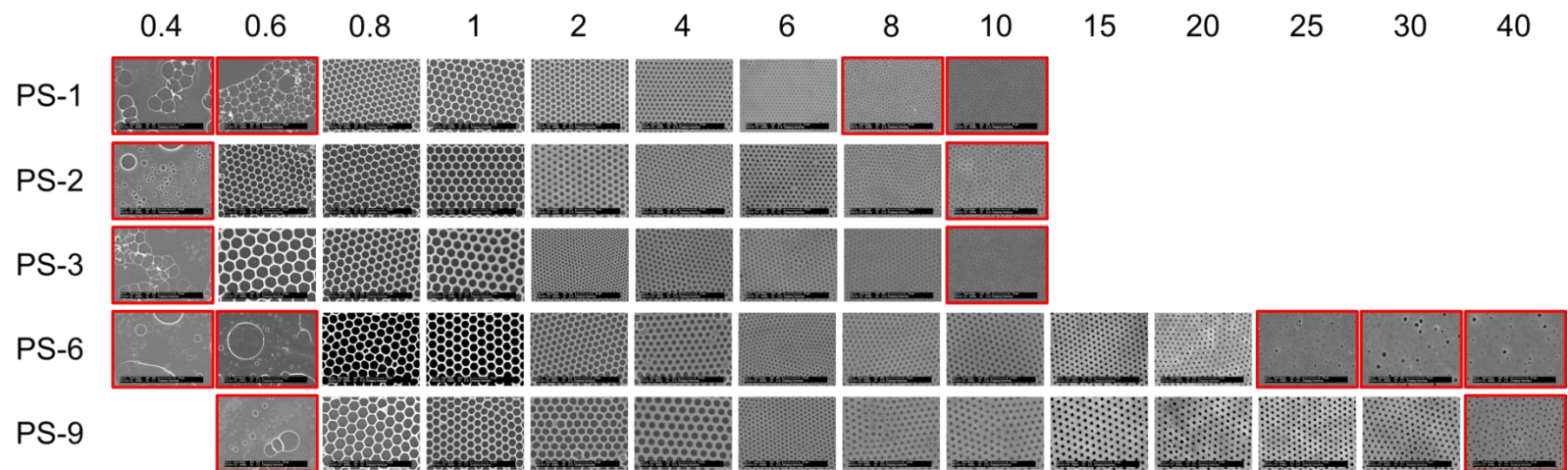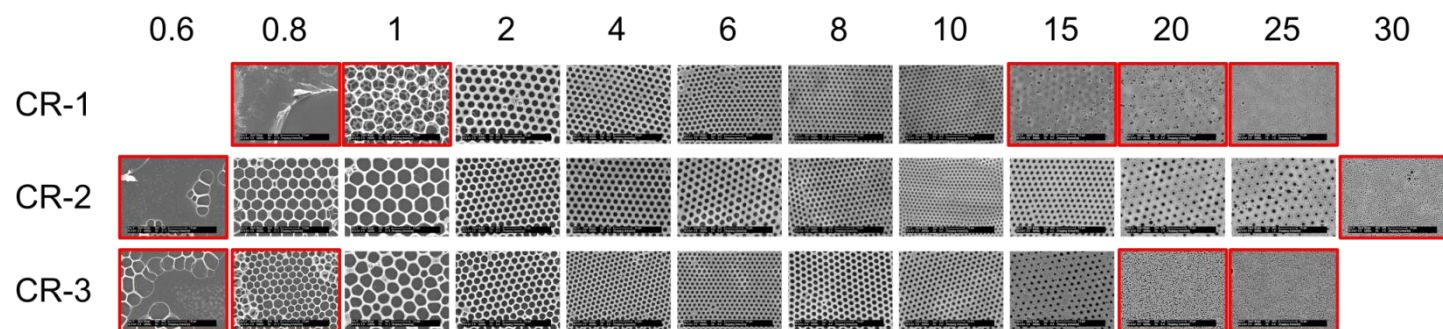
Figure S6. SEM images of films prepared from polystyrenes with different molecular weights and MWD at various concentrations. Images with border lines denote disordered samples.