Electronic Supplementary Information

Highly structured pH-responsive honeycomb films by combination of breath figure process and *in situ* thermolysis of a polystyrene-*block*-poly(ethoxy ethyl acrylate) precursor

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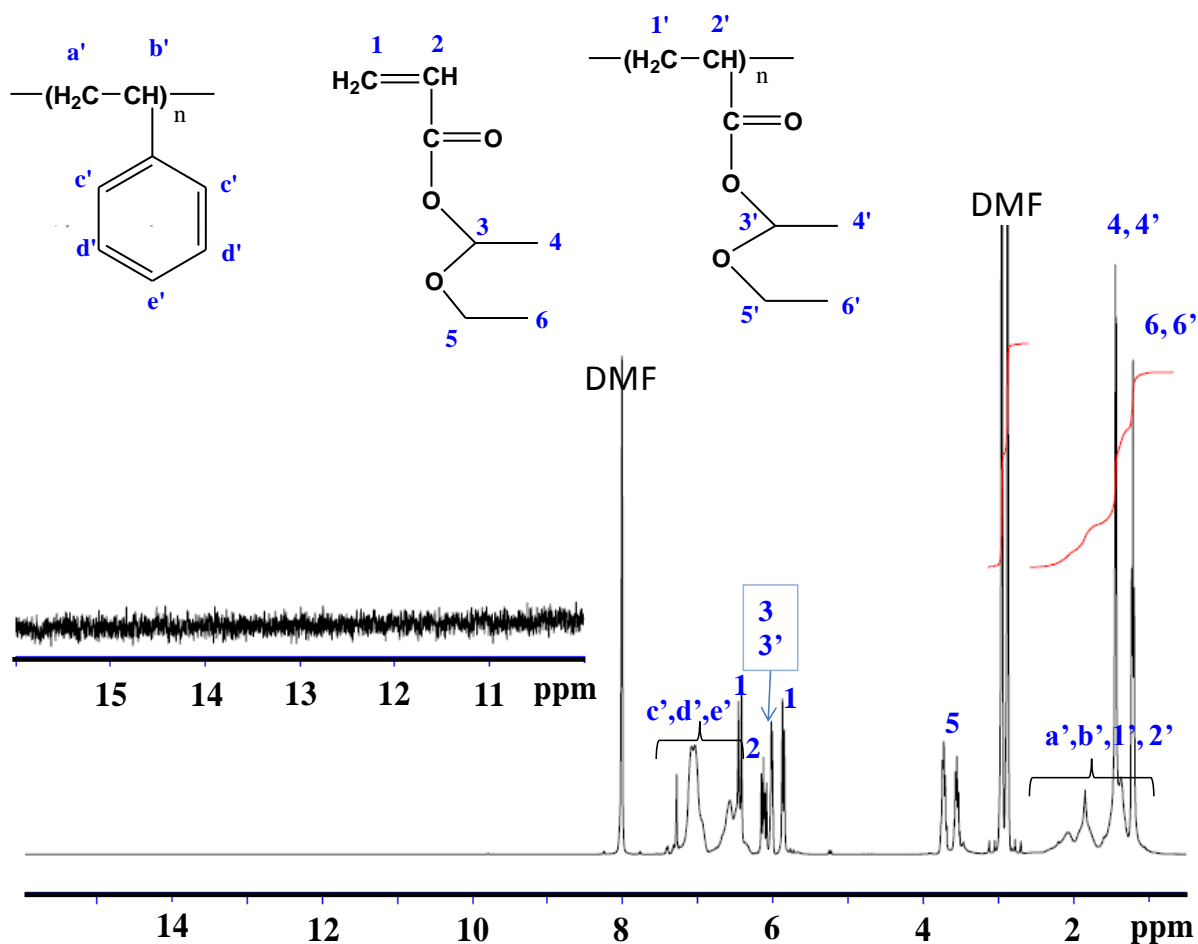
Figure SI-1. ^{1}H NMR spectrum of the crude BCP-2 sample recorded in CDCl$_3$.
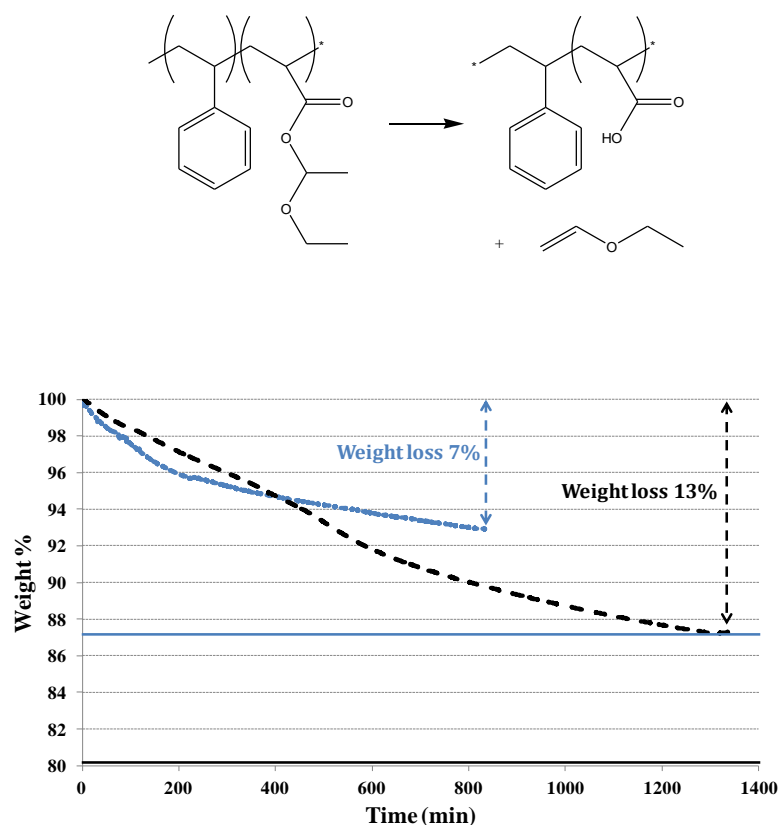
Figure SI-2. Weight loss of PS-*b*-PEEA honeycomb films (BCP-1 in blue, BCP-2 in dotted black) measured by TGA at 90 °C.

Calculation of deprotection yield

Deprotection Yield $= \frac{W\%_{TGA}}{W\%_{theo}}$ with $W\%_{\text{TGA}}$ the experimental weight loss obtained by TGA and $W\%_{\text{theo}}$ the theoretical weight loss calculated as follows:

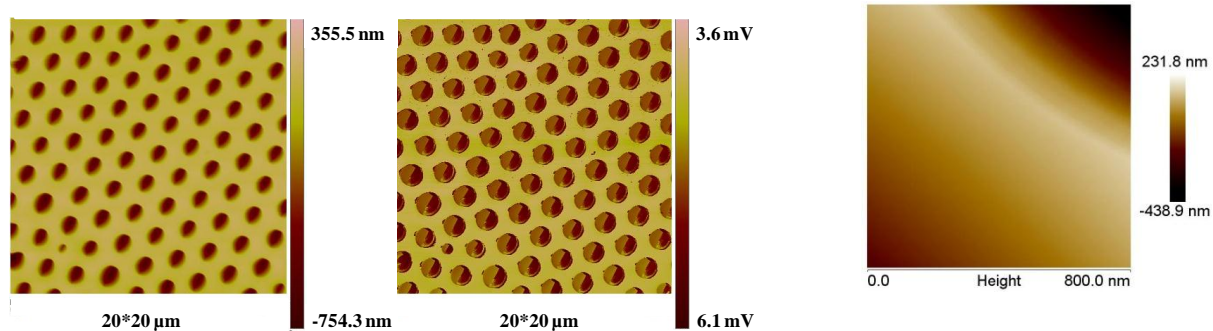$$W\%_{theo} = \frac{DP \times M_{ethyl\ vinyl\ ether}}{M_{n,copolymer}}$$

Figure SI-3. AFM topography (left) and phase (middle and right) images of honeycomb film made with PS-*b*-PEEA (BCP-2) copolymer.
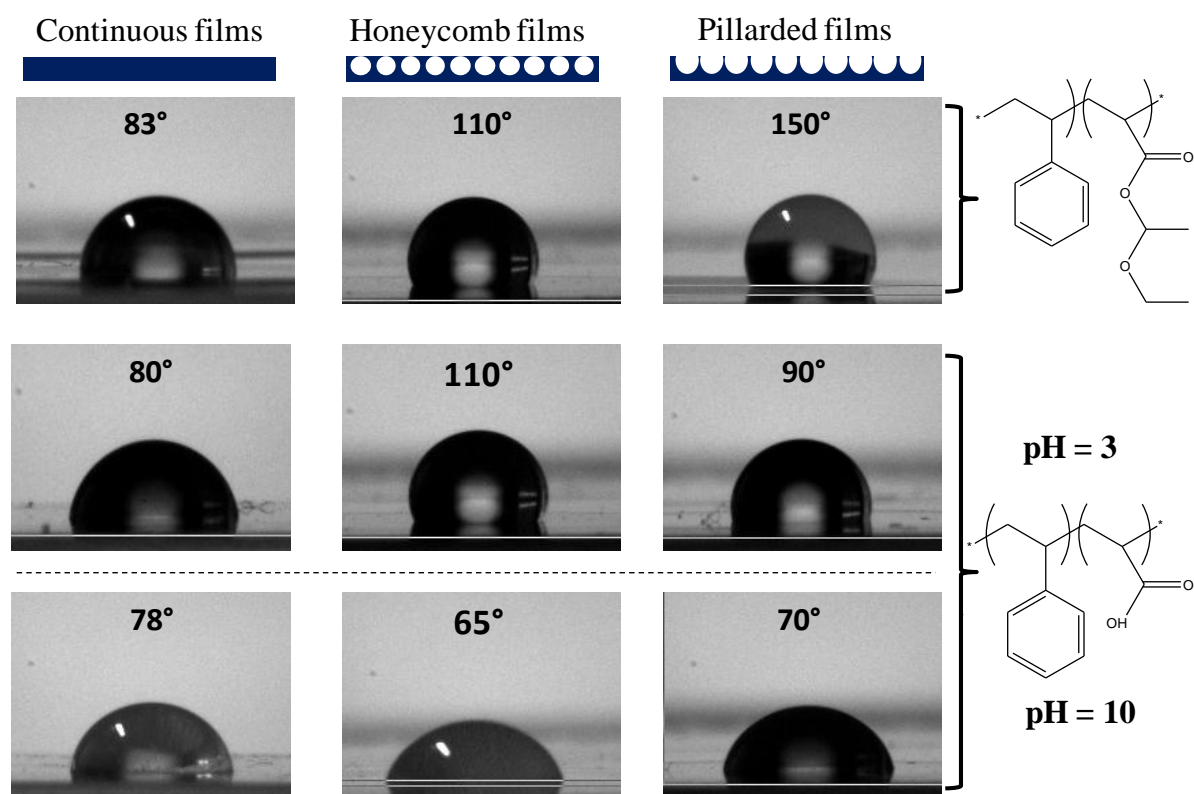
Figure SI-4. Water contact angle measurements on continuous, honeycomb and pillarded films made with PS-*b*-PEEA (BCP-2) copolymer.