

Supporting information

Self-Healing of Bulk Polyelectrolyte Complex Material as a Function of pH and Salt.

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160 mM BPEI mixed with 160 mM PAA



BPEI/PAA precipitates



Washed BPEI/PAA precipitates

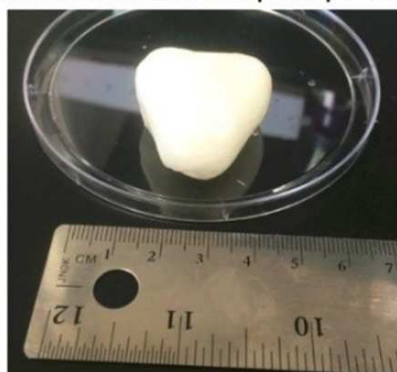
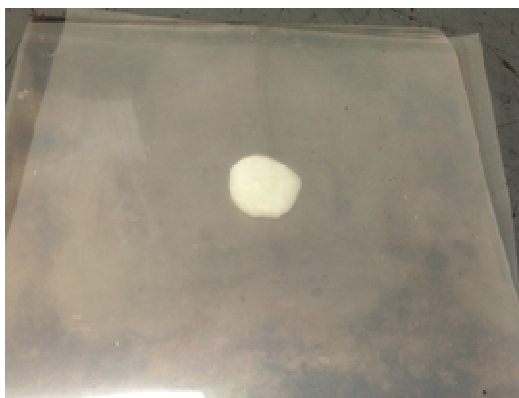


Figure S1: Formation of BPEI/PAA complex.

Compression to remove defects (e.g., air bubble)



Complex film



Roll to rod shape



Keep in DI water before use

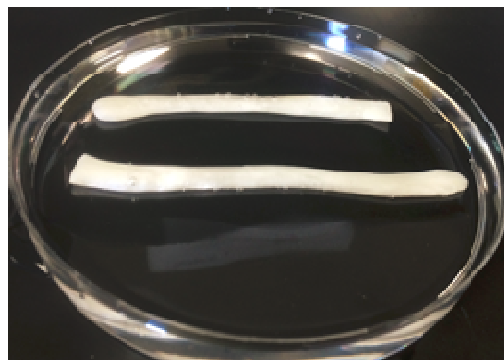


Figure S2: Preparation of rectangle-shape of BPEI/PAA complex

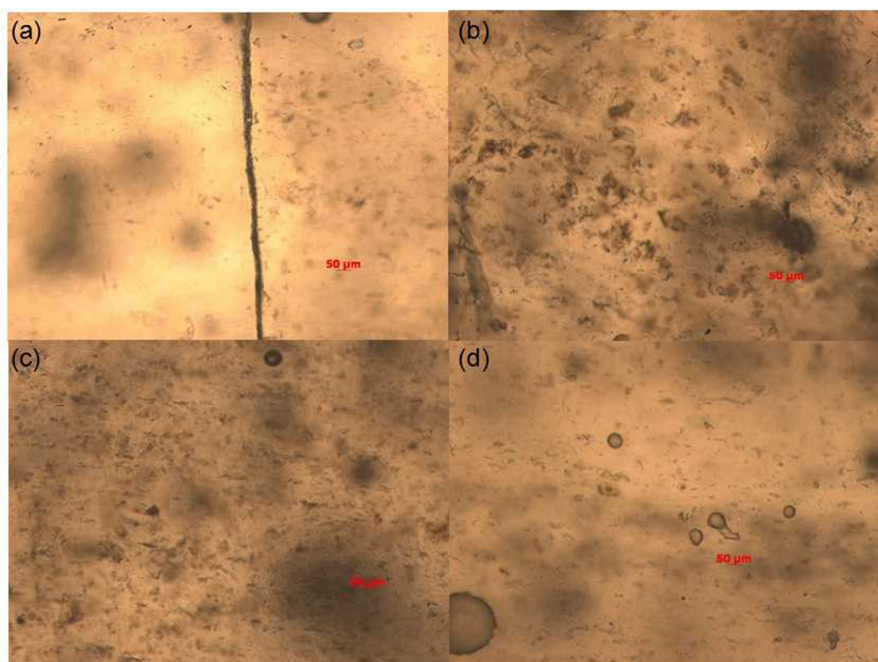


Figure S3. Cut BPEI/PAA complex treated by (a) DI water. (b) 1 M NaCl with incubation in DI water, (c) acidic water with incubation in DI water, and (d) base water with incubation in DI water.

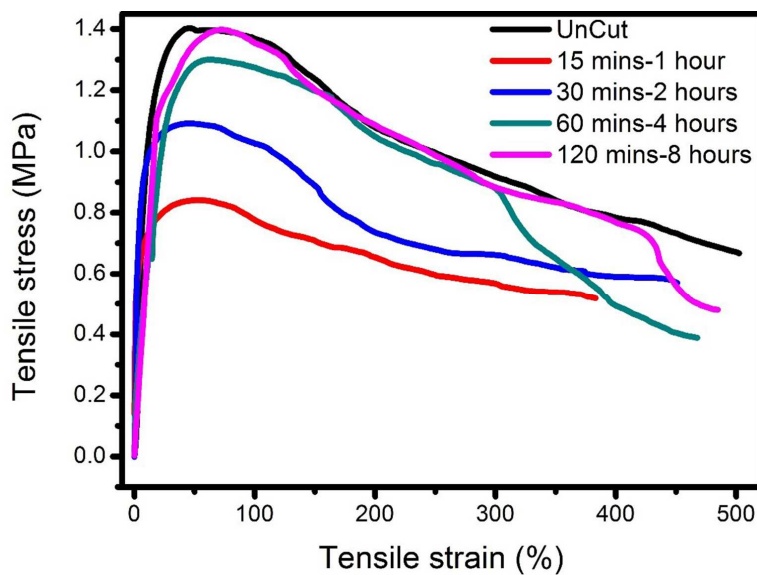


Figure S4. Tensile stress-strain curves of BPEI/PAA samples treated by 1 M NaCl with different treatment time. First time showed on the label is the time cut complex stand for after 10 min salt treatment. Second time showed on the label is the

incubation time of treated complex in DI water.

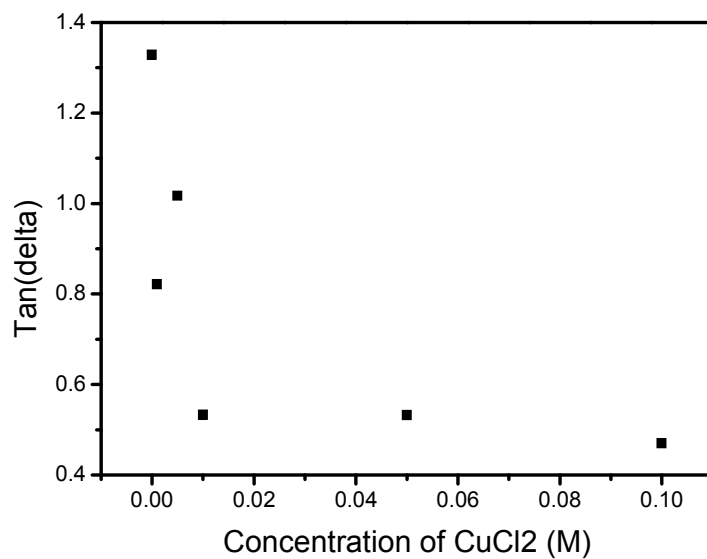


Figure S5. Loss angle of BPEI/PAA complex treated by different concentration of CuCl₂ solutions.

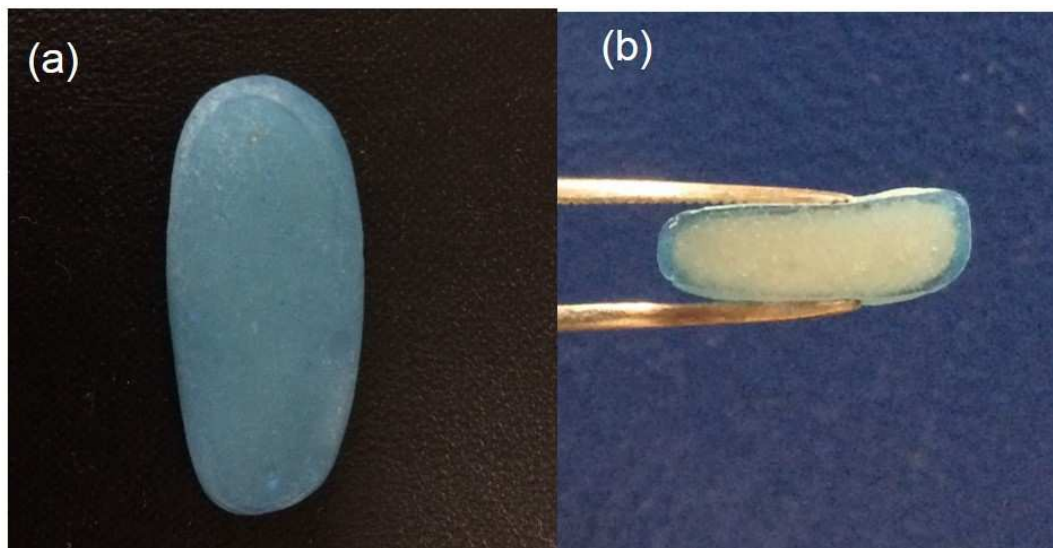


Figure S6. (a) BPEI/PAA complex after immersed in 0.1 M CuCl₂ solution for 12 hours. (b) Cross-section of the 12 hour-CuCl₂ treated BPEI/PAA complex.

Supporting information videos are available as .avi files which can be watched with VLC media player.

Video S1: Stretching of uncut BPEI/PAA complex.

Video S2: Stretching of cut BPEI/PAA complex treated by 1 M NaCl and incubation in DI water.

Video S3: BPEI/PAA complex in DI water.

Video S4: BPEI/PAA complex in 1 M NaCl.

Video S5: Stretching of cut BPEI/PAA complex treated by acidic water and incubation in DI water.

Video S6: Stretching of cut BPEI/PAA complex treated by base water and incubation in DI water.

Video S7: Stretching of cut BPEI/PAA complex treated by 0.1 M CuCl_2 and incubation in DI water.

Video S8: BPEI/PAA complex in 0.1 M CuCl_2 .