Supplementary Material (ESI) for Soft Matter This journal is © The Royal Society of Chemistry 2011

Support information "Dual-responsive and super absorbing thermo-crosslinked hydrogel based on

methacrylate substituted polyphosphazene"

- 1) FTIR characterization of the dry material, unannealed PMAPhos.
- 3157 cm<sup>-1</sup> O-H stretching –COOH (dimer)
- 3150 and 3050 cm<sup>-1</sup> C= $\underline{C-H}$  asymmetric and symmetric stretching
- 1723 cm<sup>-1</sup> C=O stretching
- 1664 cm<sup>-1</sup> C=C stretching
- 1222 cm<sup>-1</sup> P=N stretching
- 981 cm<sup>-1</sup> P-O-C stretching
- 2) DSC curves for the annealed hydrogel



Caption : Support information Figure 1 - DSC curve for the unannealed hydrogel, under nitrogen atmosphere