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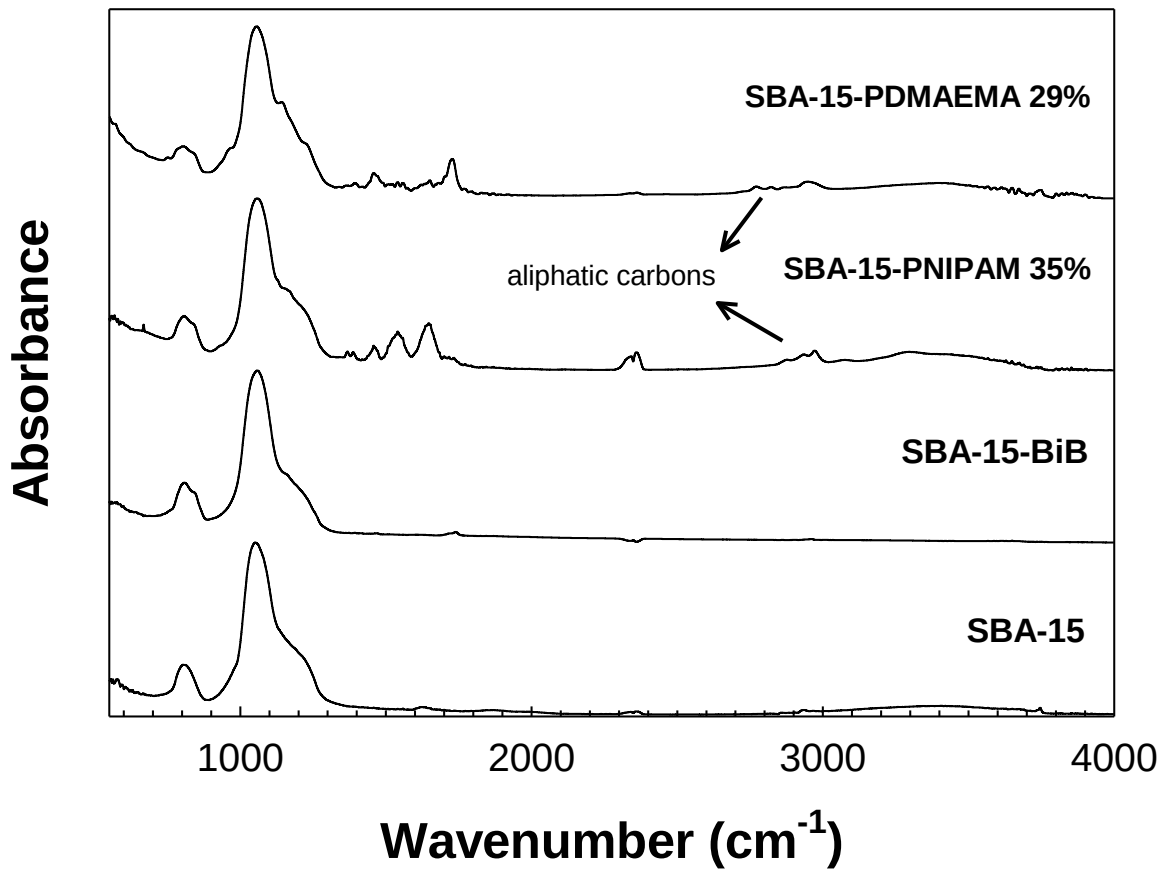
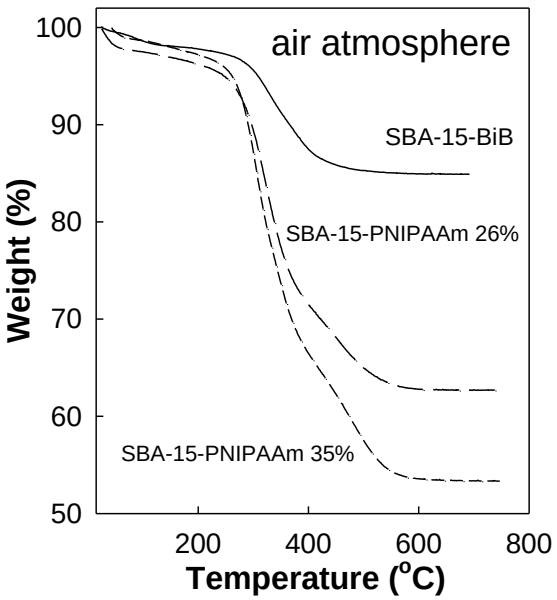
Supporting Information

Poly(N-isopropylacrylamide) and poly(2-(dimethylamino)ethyl methacrylate) grafted on ordered mesoporous silica surface using atom transfer radical polymerization with activators regenerated by electron transfer

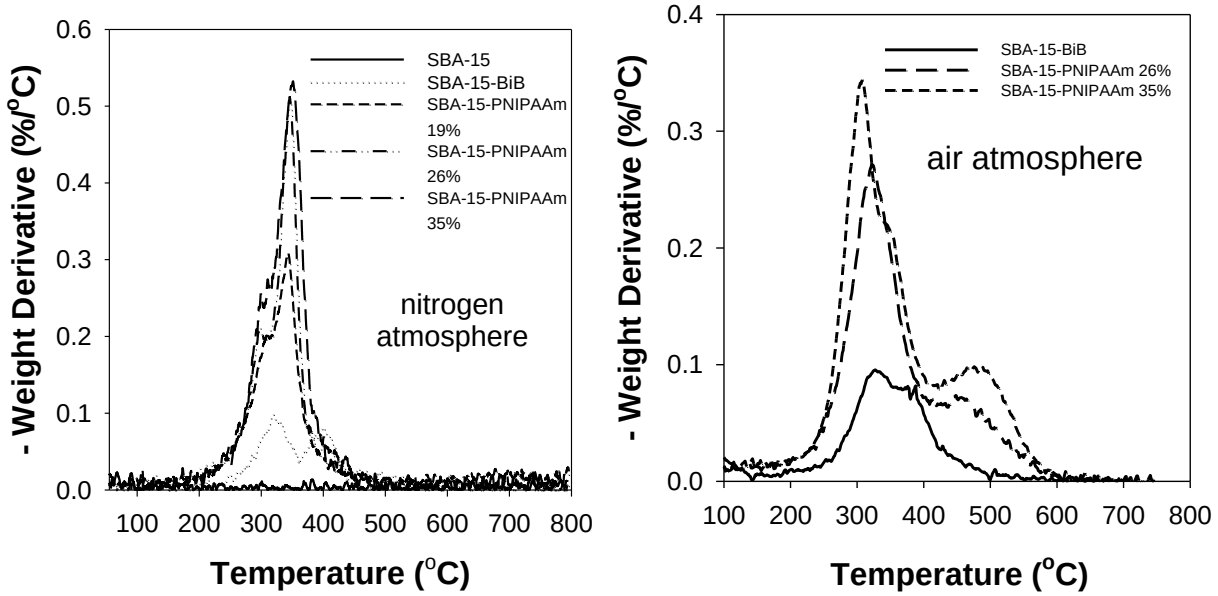
Liang Cao,[a,b,c] Tiffany Man,[a,b] Jianqin Zhuang,[a] and Michal Kruk*[a,b]



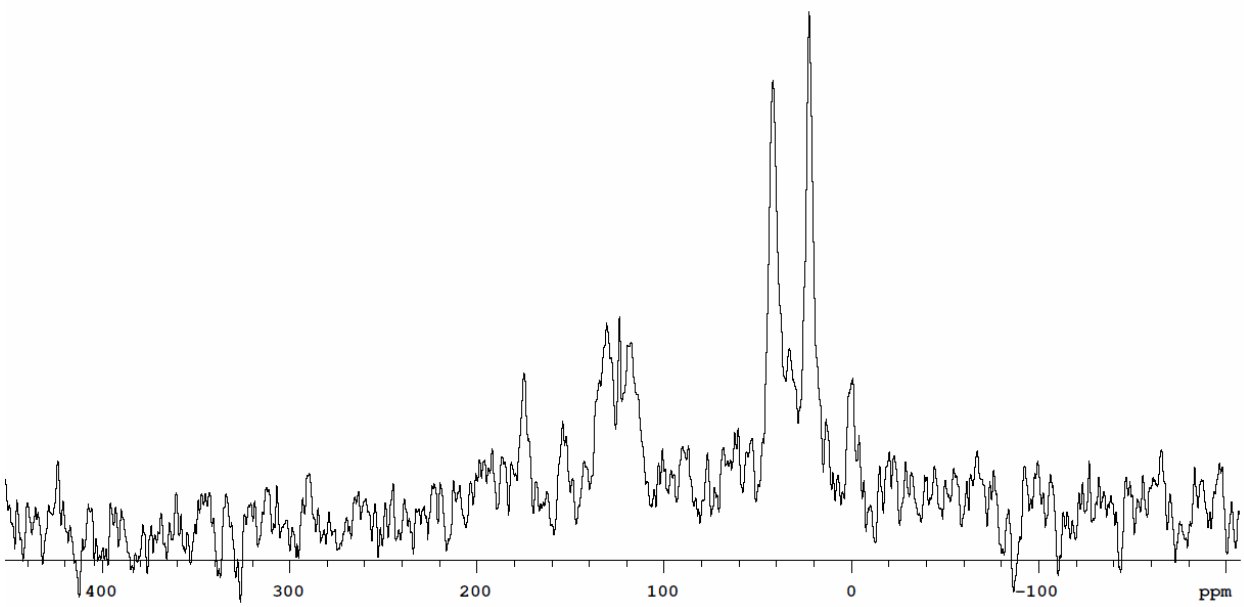
Supporting Figure S1. FTIR of SBA-15, SBA-15-BiB and representative silica/polymer composites containing PNIPAAm and PDMAEMA shown in a wider wavenumber range than that in Figure 1(a). The intense peak at at ~1100 cm^{-1} can be identified as Si-O-Si peak for the silica. The loadings of polymers in the composites are indicated in wt.%. The FTIR spectra were offset vertically to facilitate comparison.



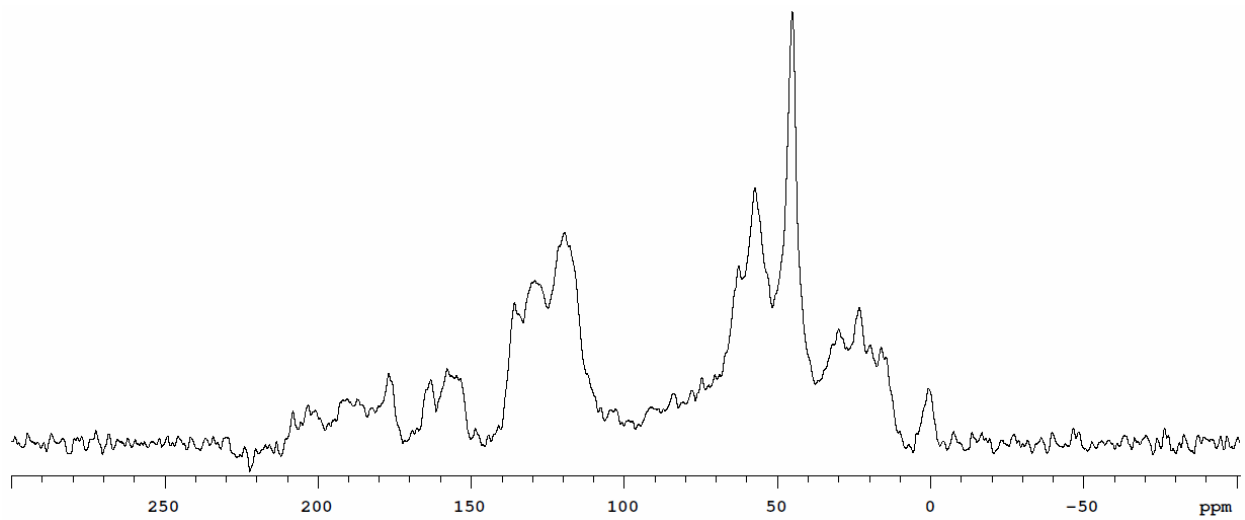
Supporting Figure 2. Weight change patterns under air for SBA-15, SBA-15-BiB and SBA-15/PNIPAAm composites (loading of PNIPAAm in the composite is indicated in wt.%). Note that TGA under air was performed more than a year after TGA under nitrogen was carried out, and apparently the samples picked up some moisture, as seen from slightly increased weight loss below ~100 °C for TGA runs under air.



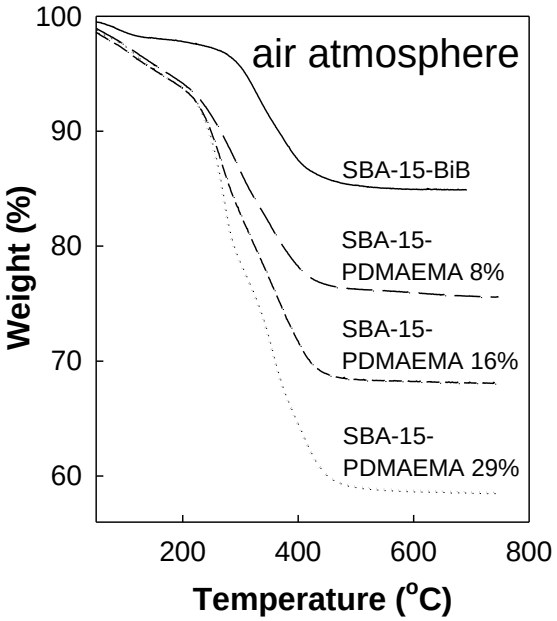
Supporting Figure 3. Weight change derivatives for nitrogen and air atmospheres for SBA-15, SBA-15-BiB and SBA-15/PNIPAAm composites (loading of PNIPAAm in the composite is indicated in wt.%).



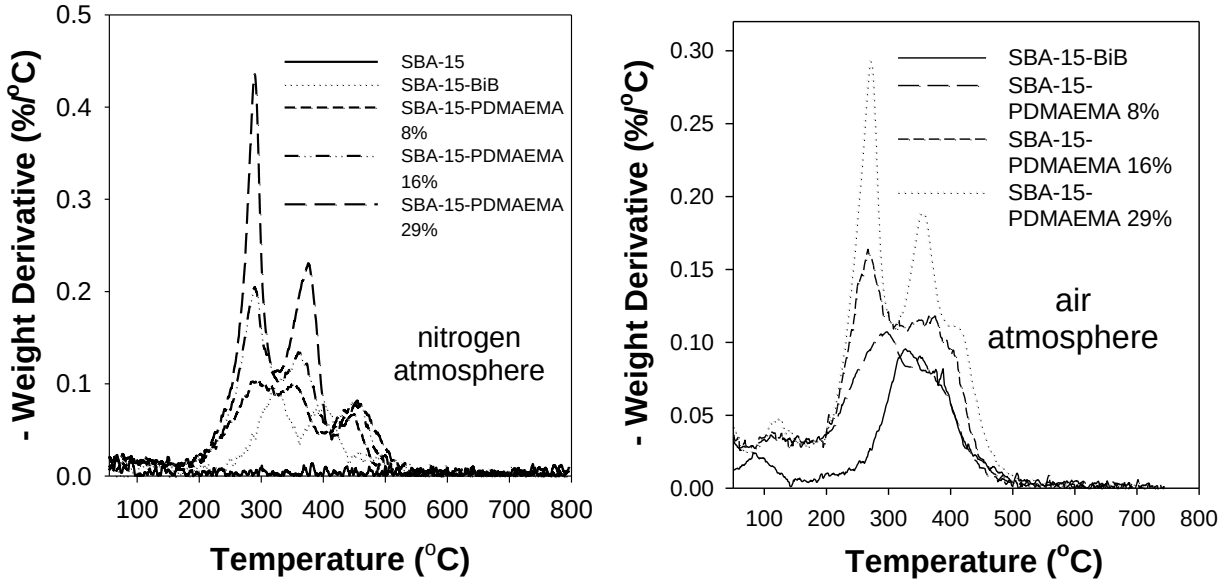
Supporting Figure S4. ^{13}C CP MAS spectrum for sample SBA-15-PNIPAAm prepared in the same way as sample SBA-15-PNIPAAm 26%, but in a separate synthesis. The polymer loading is similar in both cases.



Supporting Figure S5. ^{13}C CP MAS spectrum for sample SBA-15-PDMAEMA 16%.



Suporting Figure S6. Weight change patterns recorded under air for SBA-15, SBA-15-BiB and SBA-15/PDMAEMA composites (loadings of PDMAEMA in the composite is indicated in wt.%). Note that TGA under air was performed more than a year after TGA under nitrogen was carried out, and apparently the samples picked up some moisture, as seen from slightly increased weight loss below ~100 °C for TGA runs under air.



Supporting Figure 7. Weight change derivatives for nitrogen and air atmospheres for SBA-15, SBA-15-BiB and SBA-15/PDMAEMA composites (loadings of PDMAEMA in the composite is indicated in wt.%).