Electronic Supplementary Material (ESI) for Polymer Chemistry.

Chemical fingerprinting of polyvinylacetate and polycarbonate using electron energy-loss spectroscopy

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Supporting Information

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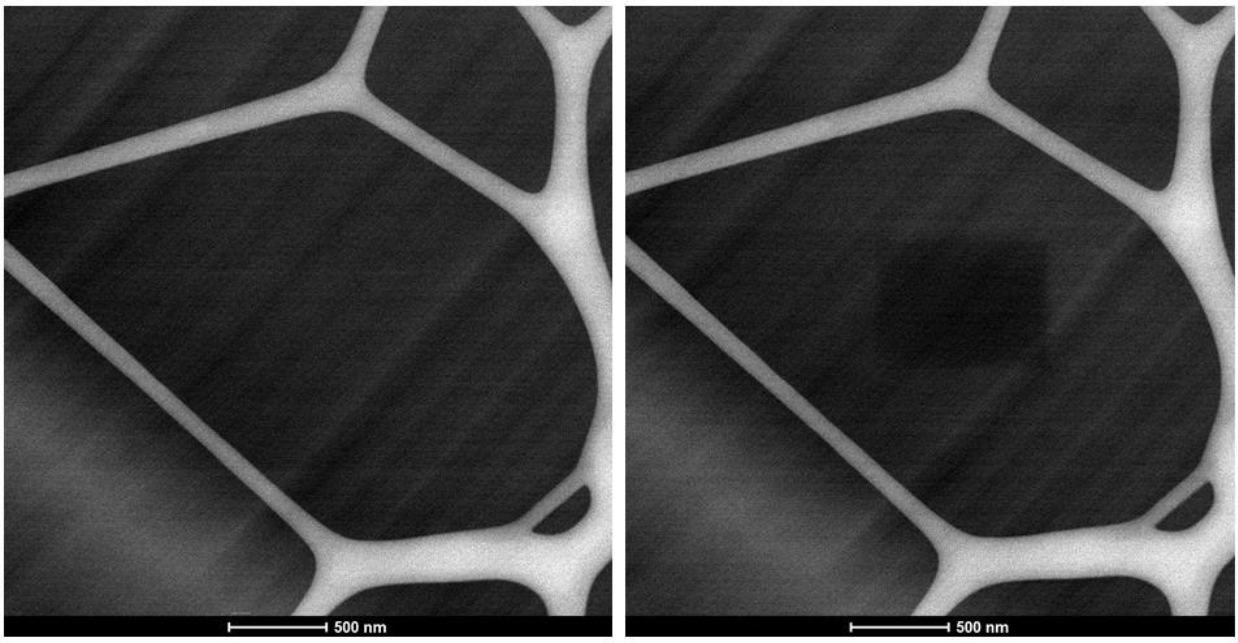
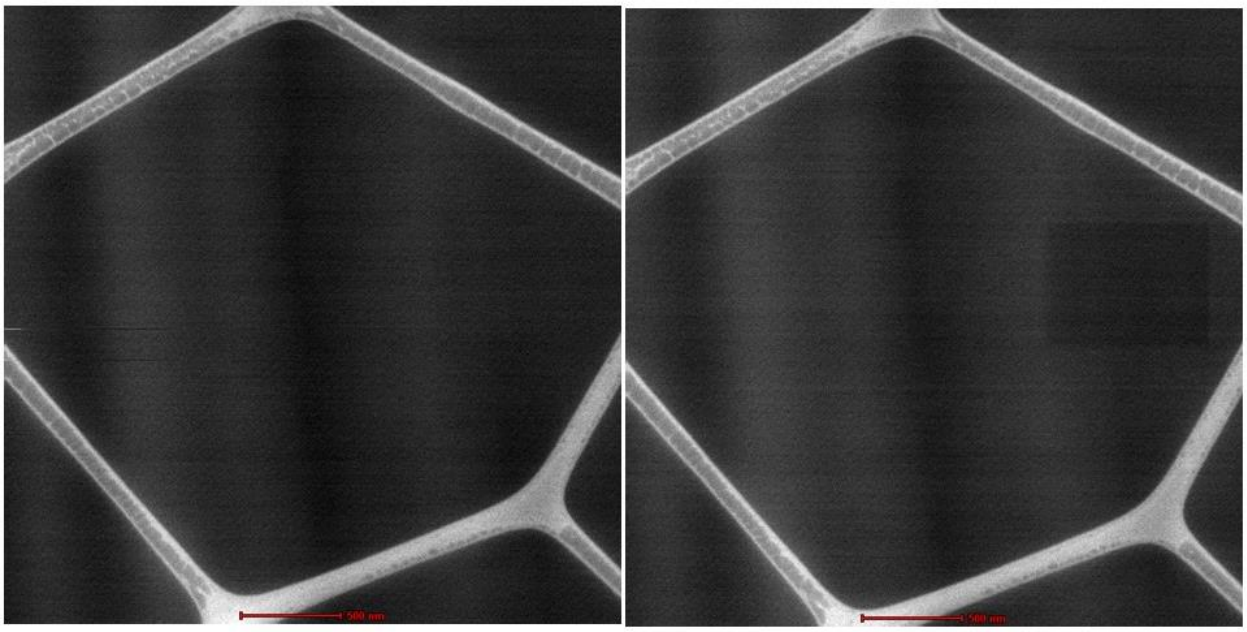


a b

Figure S1: Annular dark field STEM images showing the area for EELS spectrum acquisition for polyvinyl acetate (PVAc); (a) Before spectrum acquisition and (b) After spectrum acquisition.



a b

Figure S2: Annular dark field STEM images showing the area for EELS spectrum acquisition of polycarbonate (PC); (a) Before spectrum acquisition and (b) After spectrum acquisition.

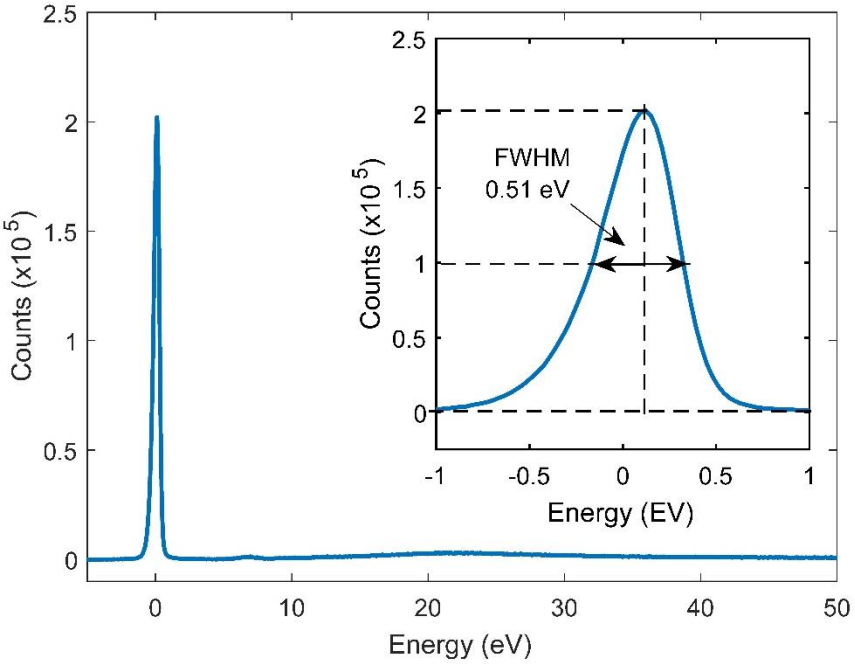


Figure S3: Low-loss region of PC EELS spectrum (Inset shows the ZLP whose FWHM was calculated to be 0.51 eV)

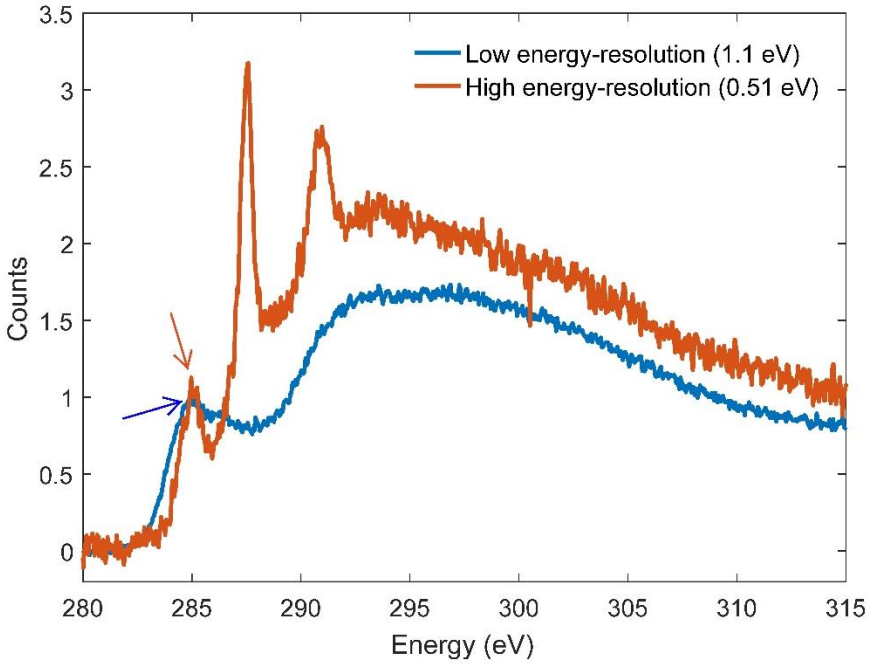


Figure S4: Comparison of EELS spectra of PVAc at carbon K-edge low- (0.9 eV) and high-energy (0.51) resolution. Power-law background subtraction and Fourier ratio deconvolution has been done for both the spectra. Arrow indicates the 285 eV peak which was visible in all the spectra. For representation purposes, counts have been normalized at the 285 eV peak.

Table ST1: Energy constraints used during gaussian fitting of low and high resolution data of PC and PVAc

S.No.	Bonding transition	PVAc (eV)		PC (eV)	
		Low res.[¥]	High res.	Low res.	High res.[¥]
1.	C 1s-π*ring	284-293	No constraints	284.9-285	284.9-285
2.	C 1s-σ*C-H	284-293	286.4-286.7[¥]	286.5-286.9	286.8-287
3.	C 1s-π*ring	287-288.5	No constraints	288.4-288.9	288.3-288.7
4.	C 1s-π*C=O	291-293	No constraints	290.1-290.3	290.1-290.5
5.	C 1s-σ*C-O			291.8-292.2	291.8-292.2
6.	C 1s-σ*C-C			293.1-296.1	293.1-296.1
7.	C 1s-σ*C=O				302.2-305

[¥]Constraints were used after visual inspection of the curve