Electronic Supplementary Material (ESI) for Soft Matter

Electronic Supplementary Information

Effect of chain structure on the miscibility of cellulose acetate blends: a small-angle neutron scattering study

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Calculation of ρ of the deuterated sample

When calculating ρ of the deuterated component, it is important to keep in mind the experimental details and specific atomistic changes thereof. Synthesis of the deuterated material started with a fully deuterated triacetate and was hydrolyzed with a protonated hydroxyl group. Thus the calculation of ρ of the deuterated CA, having a DS of 2.19, considers 100 repeat units where 19 are a fully deuterated triacetate (DS = 3) and 81 repeat units are a diacetate having two deuterated acetate groups and one protonated hydroxyl group (DS = 2), averaging out to have a DS of 2.19. This is significant due to the large difference in scattering length between deuterium and hydrogen and this consideration substantially impacts the overall results.