

Abstract Submitted
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MALDI-ToF Analysis of Model Copolymer Blends DAVID PAN, MARK ARNOULD, Xerox Corporation — MALDI-ToF mass spectrometry was used to determine the composition of a low MW styrene (S) / n-butyl acrylate (nBA) copolymer. Bernoullian chain statistics were used to predict the copolymer distribution and confirm that MALDI-ToF detects the correct composition. The copolymer was blended with a low MW polystyrene homopolymer having the same end group as the copolymer at several levels to determine if MALDI-ToF could be used to calculate the amount of homopolymer by subtracting homopolymer peak areas. It is found that, while MALDI-ToF can be used to monitor the amount of homopolymer blended into the copolymer, the observed increase is always greater than the actual amount added, e.g. up to 13% error. This could be due to the fact that the homopolymer ionizes more efficiently than the low MW copolymer. A model to improve the accuracy of the calculated amount of homopolymer in the blend is discussed.

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