Chem/MatS/ChEn 4223W

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Assignment 16
Due: *By Lecture*, Monday, April 22

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Using your GPC data from Lab 5, answer the following questions on separate pages:

1. For each of your aliquotted polymer samples, determine M_n, M_w and PDI. (Each GPC run has some very low-molecular-weight material in the trace; try not to include this in your calculation of M_n, M_w and PDI.) Then, graph all of your GPC runs on a single graph, and create a chart that lists the M_n, M_w and PDI values you've calculated.

2. Krzysztof Matyjaszewski (Carnegie-Mellon University) has written an excellent, succinct list of features of an ideal, controlled radical polymerization and posted them to his research website (http://tinyurl.com/crpfeatures). He writes that controlled radical polymerizations should exhibit first-order kinetic behavior (feature 1) and a pre-determinable degree of polymerization (feature 2). Were either of these true for your polymerization? Graph your data in a way that allows you to evaluate your polymerization. If your polymerization didn't meet either of these criteria, does the data tell you why not?