

Supporting Information

to

Analysis of Cyclic Polymer Purity by Size Exclusion Chromatography: A Model System

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Matlab Code.

The Matlab program used was Matlab R2017a. The distribution were imported using excel files.

```
%Residual sum of squares Fitting of two distributions
%Author: Michael Monteiro
%Date: 27/03/2020
%Date Modified:

clear all;
%Import data from Excel file
%Col 1= Mw, Col2=Linear, Col3=cyclic, Col4=actual
filename0='DistributionG2.xlsx';
TD=xlsread(filename0);

%Find Mw at peak maximum
[n,i]=max(TD(:,2));
MPLinear=TD(i,1);
[n,i]=max(TD(:,3));
MPCyclic=TD(i,1);
[n,i]=max(TD(:,4));
MPActual=TD(i,1);

%scale
count =0;
for scale =0.9:0.0001:1.1
    for i =0.0:0.0001:0.1
        count=count+1;
        wpLinear=i;
        wpCyclic=1-i;

        %Col 5 = predicted
        %TD=[TD, wpLinear*TD(:,2)+wpCyclic*TD(:,3)];
        TD(:,5)=scale*(wpLinear*TD(:,2)+wpCyclic*TD(:,3));

        SS(count)=sum((TD(:,4)-TD(:,5)).^2);
        wp(count)=wpCyclic;
        Scale12(count)=scale;

    end
end

R=[wp' SS' Scale12'];

[n,i]=min(R(:,2));
MinimumCyclic=R(i,1)
MinimumScale=R(i,3)
```