

Justice Laboratory Software

Size Exclusion/Gel Permeation Chromatography Molecular Weight Software for Windows

Accurate SEC/GPC Software that is Easy to Use

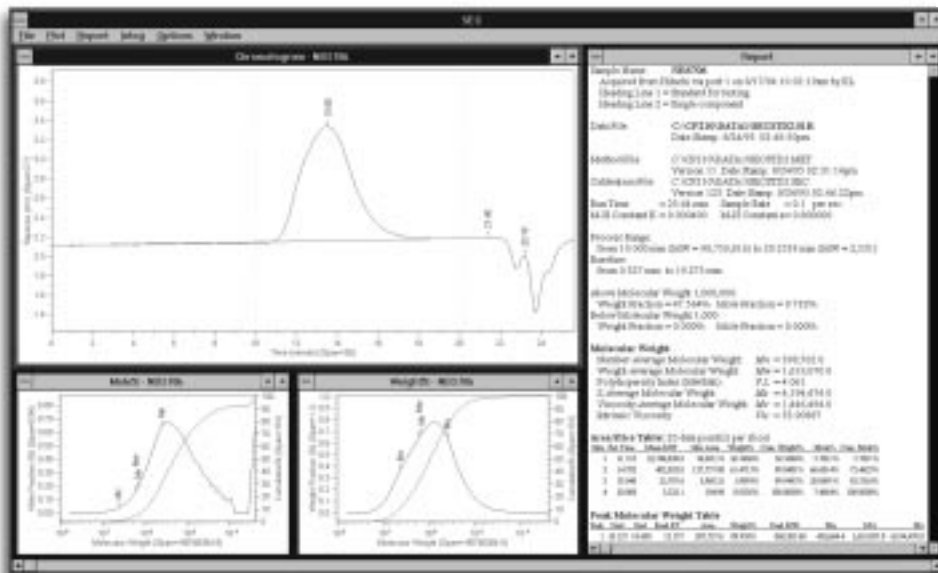
Now there is a full-featured Size Exclusion Chromatography software package that is fully integrated with **Chrom Perfect™** for Windows. SEC provides a wide variety of calibrations and reports and produces accurate and reproducible measurements of molecular weight.

Three Modes of Operation

The software allows you to retrieve a chromatogram collected by **Chrom Perfect** and produce SEC plots and reports interactively. It also allows you to produce reports and plots interactively after each run or by batch reprocessing a series of runs. The specifications for the reports and plots come from an SEC method file that the chemist prepares ahead of time.

Transfer Plots and Reports to Other Software

The software can leave SEC results in ASCII files for transfer to



With the SEC software, you can display your report together with the chromatogram and weight distribution graphs. You can reset baselines and summation regions, and immediately see the effect on the molecular weight calculations. SEC enhances reproducibility with a smoothing algorithm on the baseline. You can include negative peaks in the calculations or exclude them.

other software packages such as EXCEL, Lotus 1-2-3, or a word processor. It can also leave the plot in a Windows® metafile or bitmap file for transfer to your word processor or desktop publishing software.

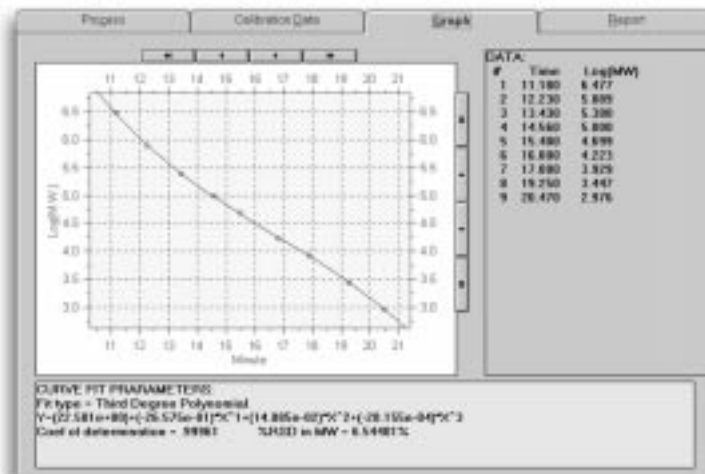
SEC Calibrations

SEC supports a wide variety of calibrations, including:

- narrow standard
- broad standard
- universal calibration

The software fits the calibration curve with a polynomial up to degree 5.

The software can compensate for drift with internal standards.



SEC Reports

The format of the report is fully configurable through an SEC method file.

The software fully documents the source of the data and calibration. It gives you over 200 characters of user-defined sample identification.

You can use interactive graphics to set the start and stop positions of the baseline and processing ranges. The software computes the molecular weight range that corresponds to these points.

The software can show the amount of polymer above or below specified bounds.

The software provides six types of molecular weight calculations.

You can specify the slice width for the table that shows percent off versus retention time.

The software will detect the peaks in the SEC chromatogram, and provide molecular weight summations for each peak.

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Sample Name:      NBS706
Acquired from Hitachi via port 1 on 8/17/94 10:02:19am by RL
Heading Line 1 = Standard for testing
Heading Line 2 = Single component

Data File:       C:\CP210\DATA\SECSTD2.01R
Date Stamp:      8/24/95 02:48:50pm

Method File:     C:\CP210\DATA\SECSTD2.MET
Version 11, Date Stamp: 8/24/95 02:31:14pm
Calibration File: C:\CP210\DATA\SECSTD2.SEC
Version 123, Date Stamp: 8/24/95 02:46:22pm
Run Time        = 25.64 min   Sample Rate    = 0.1 per sec.
M-H Constant K  = 0.000400   M-H Constant a = 0.800000

Process Range:
from 10.000 min (MW = 98,750,816) to 20.2533 min (MW = 2,531)
Baseline:
from 0.327 min to 19.273 min

Above Molecular Weight 1,000,000:
Weight Fraction = 47.564%   Mole Fraction = 9.732%
Below Molecular Weight 1,000:
Weight Fraction = 0.000%   Mole Fraction = 0.000%

Molecular Weight
Number-Average Molecular Weight:  Mn = 398,702.0
Weight-Average Molecular Weight:  Mw = 1,619,070.0
Polydispersity Index (Mw/Mn):     P.I. = 4.061
Z-Average Molecular Weight:       Mz = 4,194,474.0
Viscosity-Average Molecular Weight: Mv = 1,446,494.0
Intrinsic Viscosity:              [η] = 33.90887

Area Slice Table( 20 data point(s) per slice)
Slice Ret Time  Mean MW    Slice Area  Weight%   Cum. Weight%  Mole%    Cum. Mole%
1  11.515      22,740,830.0  76,001.51  16.5660%   16.5660%     5.7811%   5.7811%
2  14.782      402,022.0    127,757.80  43.4719%   60.0379%     66.6810%  72.4629%
3  18.048      25,707.4     1,068.21   1.9093%    61.9472%     28.6681%  92.5310%
4  20.008      3,322.1      104.95     0.0505%   100.0000%    7.4689%  100.0000%

Peak Molecular Weight Table
Peak Start End Peak ET Area Weight% Peak MW Mn Mv Mr
1 10.127 19.600 11.557 287,727.6 99.950% 868,303.00 430,664.4 1,619,687.0 4,194,474.0
    
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Ordering Information		
5006-0000	SEC/GPC Software	
1001-1102	SEC Chromatography System	1 instrument
2001-1404	SEC Chromatography System	4 instruments
3001-0000	SEC NT Client/Server System	

Chrom Perfect is a trademark of Justice Innovations, Inc.
Windows is a registered trademark of Microsoft Corporation.