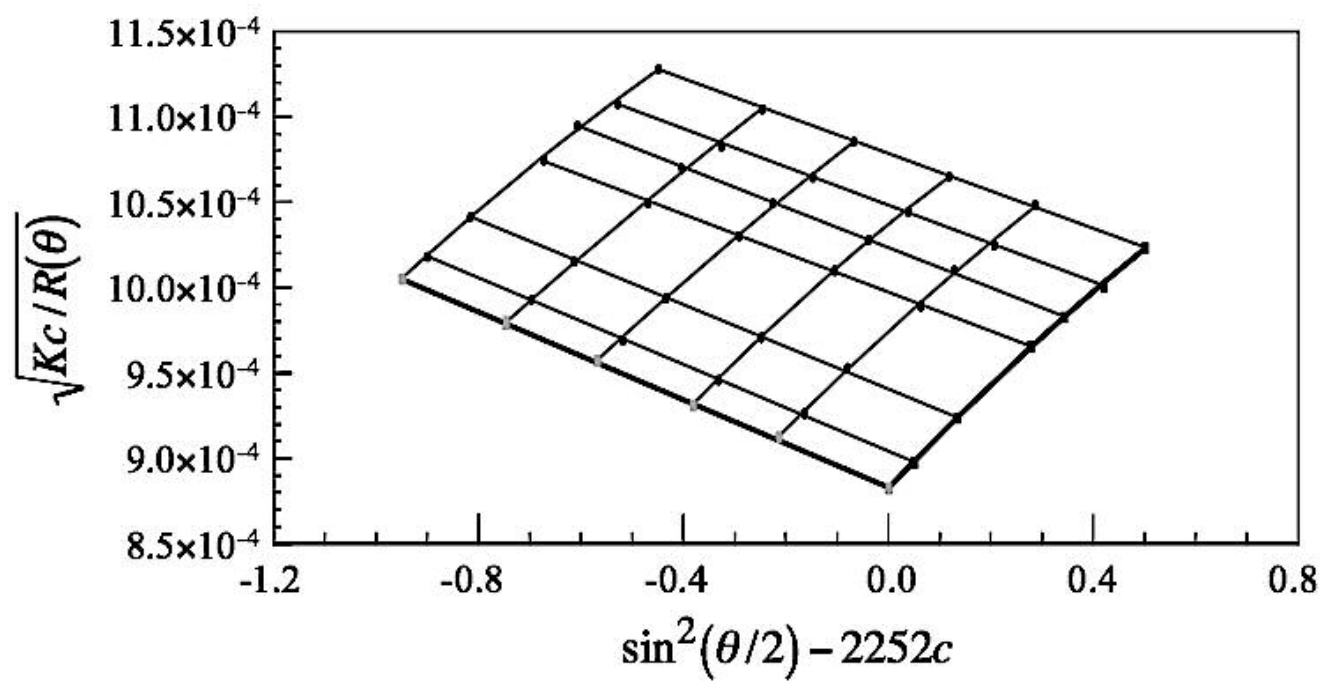
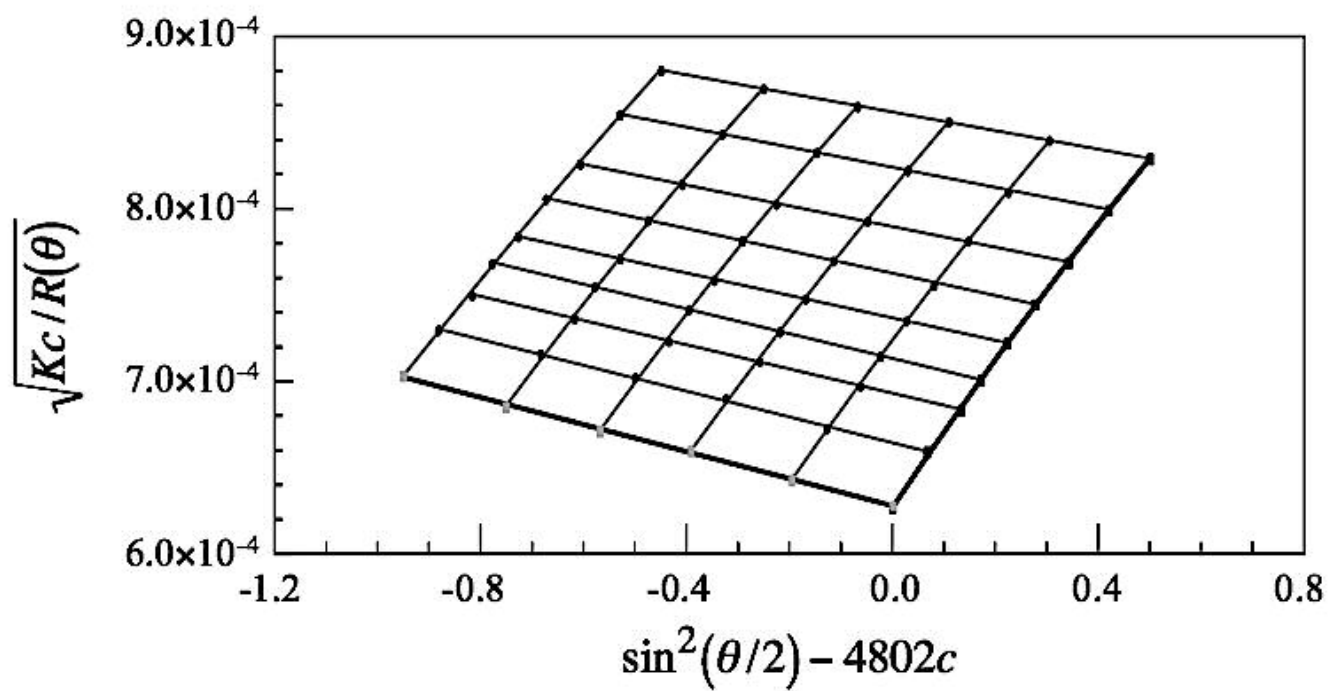


## Supporting Information

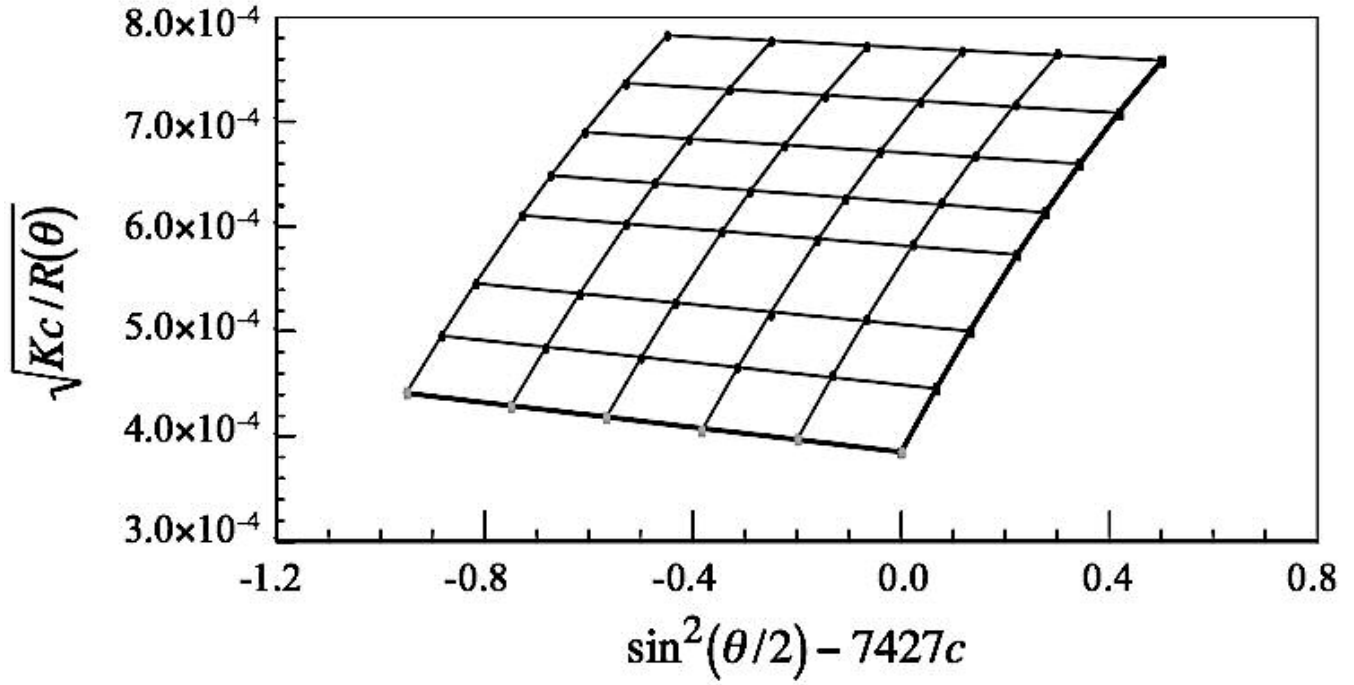
(a)



(b)



(c)



Sample Zimm plots of polystyrene (PS) samples in toluene at room temperature. Here,  $\theta$ ,  $c$ ,  $R(\theta)$ , and  $K$  respectively denote the detection angle, the concentration of a sample in g/ml, the excess Rayleigh ratio, and  $K = \frac{4\pi^2}{N_A} \frac{n_0^2}{\lambda_0^4} \left( \frac{dn}{dc} \right)^2$  with  $N_A$  the Avogadro's number,  $n_0$  the solvent refractive index ( $n_0=1.488$  for toluene),  $\lambda_0$  the vacuum wavelength of incident light, and  $dn/dc$  the refractive index increment ( $dn/dc=0.106$ ). Note that a negative “stretch factor” has been used for enhanced interpretability. We employed a “Berry plot” for (a)  $1.28 \times 10^6$  g/mol, (b)  $2.53 \times 10^6$  g/mol, and (c)  $6.62 \times 10^6$  g/mol polystyrene, since this method of plotting is recommended for polymers with the molecular weight higher than 1 million g/mol. The actual molecular weight, the radius of gyration, and the second virial coefficient,  $A_2$  for three different PS samples are listed in the table below.

Part No. (Batch No.)	Nominal $M_w$ $10^6$ g/mol	Actual $M_w$ $10^6$ g/mol	$R_g$ nm	$A_2$ $10^{-4}$ mol·mL/g <sup>2</sup>
F-128	1.09	1.28	43.9	2.32
F-288	2.11	2.53	62.9	2.84
F-550	5.48	6.62	104.8	1.77